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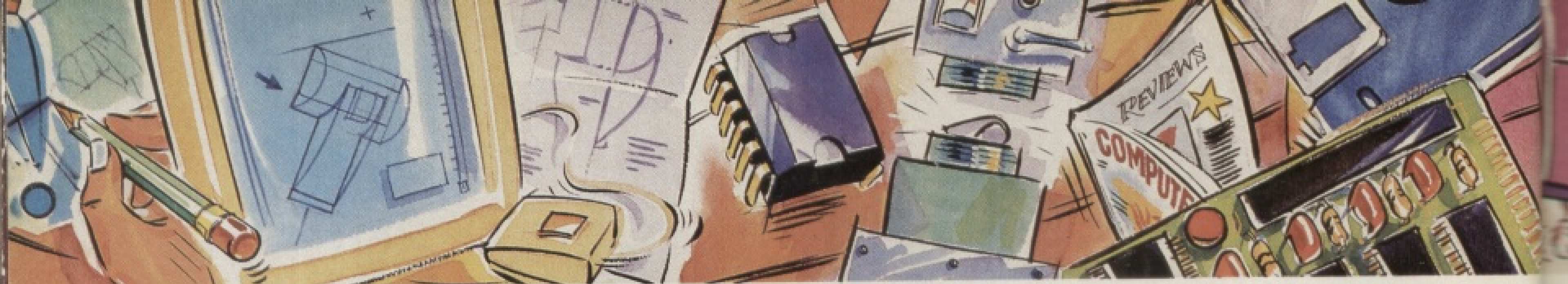
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powerscan 4



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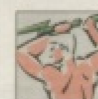
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AMIGA

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What does Aunty Doris want for Christmas? More importantly, what is she going to buy me? For the answers to those questions and many more turn to our special seasonal buyer's guide where you'll find everything from drive cleaning kits to the latest pocket zoom binoculars. We've put together a huge guide devoted to those little gifts that you've always wanted. There's no need to be stuck for suggestions when you've seen what's on offer here.

52 MICROCOSM

The first true CD32 game is about to be released. If you've ever dreamed what the future of CD gaming should look like here it is. Commodore's new dream machine is going to have its work cut out coping with the tons of special effects and video footage contained in this superb blaster. Take control of a special miniaturised sub that's been injected into the President's body, race down his veins and take on the white blood cells that're out to get you. The future of the world is in your hands.

62 GRAPHICS FEATURE

The CD32 is heralding a new era of graphic excellence. But what are the games that are going to test its capabilities? Tony Dillon travels the length and breadth of the country to speak to the top development teams to find out what they're doing now. Coding is moving at such a pace that the state-of-the-art is a term that changes from day to day. There's Psygnosis' *Microcosm* with fantastic video footage, Bullfrog's amazing *Magic Carpet* and *Creation*, and Mirage's truly wonderful *Rise of the Robots* – the first beat 'em up to feature 3D raytraced graphics. Other coders are also pushing back the envelope of computer graphics, applying innovative techniques that make the Chipset groan with fatigue. The Dome, coders behind *Bob's Bad Day*, and Kev Bulmer show everyone how it should be done.

AD INDEX

OFF THE CUFF

EDITORIAL


Dan Slingsby – Editor

The good news keeps on coming regarding Commodore's amazing new CD32 console. Sales have absolutely sky-rocketed in recent weeks, with many shops selling out their entire allocation.
What's more, the FMV unit has now been confirmed for an early December release, so pretty soon you'll be able to watch goodies such as REM in concert and full-length feature films. It's really going to revolutionise home entertainment, so it's nice to see Commodore getting in on the act at the start of it all. Even better, after a sluggish start, we're at last starting to see some amazing games for the machine, including Tony Crowther's *Liberation* and Psygnosis' *Microcosm* (which certainly puts the Mega CD version of the same game to shame). It's exciting titles such as these which will establish the CD32 as one of the premier games-playing platforms (and secure Commodore's future into the bargain). So what are you waiting for? Go out and buy one now!
Onto the mag itself, and we've got another packed issue for you (which I must say nearly every issue, but it's especially true this month!). Not only is there a free 52-page guide to *DPaint* attached to the cover, but there's also a free games supplement too. And, as it's Christmas (well, it will be soon), Lord EMAP has been overcome with a sudden fit of generosity and forked out the readies for not one, but two full-price programs for our coverdisk, offering you an unrivalled animation and graphics package. There's lots more crammed into the mag, as I'm sure you'll discover, including a special Christmas Buyer's guide with lots of suggestions on what to buy for your Amiga-owning friends. And on page 128 we've some amazing news about a new magazine, written and edited by the same CU Amiga team you've come to know and love (or hate, as the case might be!).

NEXT ISSUE ON SALE 19TH DECEMBER

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CU AMIGA Offices Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. Tel: 071 972 6700 FAX: 071 972 6701. Distribution BBC Frontline Ltd, Park House, Park Road, Peterborough PE1 2TR. Tel: 0733 555161. Subscriptions and Enquiries: Tower Publishing, Tower House, Sovereign Place, Lathkill St, Markey Harborough, Leics LE16 9EF Tel: 0858 468888. Annual subscription rates (inc postage) for 12 issues: UK and BFO £47, Overseas and surface mail £60, Airmail and Eire: £66, Airmail zone 1, 2 and 3 £96.50 **PRINTED IN THE UNITED KINGDOM**

ABC 111, 408 Jan-June 1993

GET SERIOUS

PRODUCTIVITY REVIEWS

It's sequel city this month with long awaited updates to some of the most popular hardware and software around. We've got the first reviews of the excellent Hama genlock and Picasso II. Plus, the eagerly awaited Multimedia Toolkit makes an appearance



Art for art's sake? Paint your way over to page 80 to take a look at Picasso.



Grab video perfectly with Hama's genlock. See all on page 84.

HOT HOT HOT

GAME REVIEWS

The games market takes on a special significance at Christmas with publishers rushing to release their top products. So, this month our game reviews have got a special supplement all to themselves. Turn to our bound-in A4 supplement to see this Christmas' hot new games.



Blood, guts and gore galore with our exclusive review of *Mortal Kombat*, read all on page 4 of the supplement.



First review too for the excellent arcade conversion of *Terminator 2*. Uzis at the ready on page 8 of the supplement.

REGULARS

COVERDISKS

How many superb pieces of commercial graphics and animation software can we squeeze onto Coverdisk 70? No less than a jaw-dropping three! Spectracolour, Aegis Animator and Aegis Images are all yours for keeps with this very issue of CU AMIGA!

DISK 70 — PAGE 20

Some mags might give you a cut-down version of a commercial program. Others might even give you a full version from time to time, but CU AMIGA gives you a trio of complete, fully functional top-quality commercial graphics packages! First there's the superb 4096 colour HAM paint package *Spectracolour*. Offering stunning effects, such as advanced brush manipulation, fine luminance and transparency controls, along with a feast of other dynamic features, it really shows off the immense power of your Amiga. As if that weren't enough, there's also *Aegis Animator*, a revolutionary animation system that makes heavy use of morphing. To complement *Aegis Animator*, there's the art package *Aegis Images*, the perfect companion.



DISK 71 — PAGE 33

Settle down in front of your monitor with this month's games disk and you'll see what a wonderful package it is. First up there's *The Settlers*, Blue Byte's foray into the sim market. With a colony of people at your disposal there's a massive world for you to explore. Build up your village from one small castle to the size of a city. Fight off invasions from armies of rival knights and then return to conquer their kingdoms and expand your own. There are resources to manage, buildings to maintain and tasks to be assigned. Alternatively, you could just sit back and watch as the demo also plays itself – marvel at the cute animations as your subjects go about their daily tasks. Next into the ring there's *Turrican 3* the shoot 'em up to beat the rest. Guide your brave warrior through a level of bio-mechanical mayhem. Dodge the incoming fire then blast the opposition into oblivion.



CU NEWS

COMMODORE IN COURT

Commodore are currently in the middle of a legal battle with home computer rivals, Acorn, over an 'educational' video being distributed by Acorn. The video is part of Acorn's aggressive Christmas ad campaign and features a family deciding which home computer to choose for themselves. Of course, after looking at six machines, an Amiga included, they opt for the Acorn.

Commodore haven't taken issue with this choice. Rather they complain that the video portrays the Amiga as a games-only machine and that it cannot handle the office/educational software shown in the video. Amiga users know, of course, the truth. But newcomers to the market could be seriously misinformed by such claims. Commodore have obtained an injunction stopping further distribution of the video until the court decides on the alleged misrepresentation. A Commodore spokesman said that Acorn have drafted a letter to be sent to people who've already received it stating that the Amiga can indeed run professional software. A trial date has not yet been set, but we'll keep you informed when we know more.



NEW SEIKOSHA 24-PIN

Fresh out of the Seikosha stable is their £249 24-pin colour dot matrix SL-96 printer. Using the optimised printer language ESC/P2, it's able to print scalable fonts, with a maximum resolution of 360 x 360 DPI. There are 8 bitmap fonts and 2 scalable fonts on board, and 42K of memory to free-up the computer for other tasks whilst printing. The SL-96 comes with a Windows driver as standard, but an Amiga driver is available on request. Seikosha UK are available on 0753 685 873.

ROCKET RESCUE

Colchester-based publishers, Hot Shot Entertainments, are soon to release *Rocket Rescue* on all formats. It's a horizontally-scrolling shoot 'em up/hostage rescue game in the same style as *Choplifter* and *Oids*.

Hot Shot's Jonathan Beale is no newcomer to the industry. As an ex-Future boy with many years of magazine and corporate video experience he's understandably enthusiastic about his new product. 'It's the only game of its genre not to have been previously released on either Amiga, PC or console platforms.' You can contact Hot Shot on 0206 562233.



NEW HARD DRIVES FOR A1200

In an announcement designed to appeal to the more budget-minded Amiga owner, Media Source have announced a new way of adding 3.5 inch mechanisms to Amiga A1200s.

Normally only 2.5 inch drives can be fitted internally. 'The 3.5 inch mechanisms have three major benefits over the smaller drives. First, they are much, much cheaper. Second they are much faster, and third they come in much larger capacities' said a Media Source spokesperson. 'With our DIY kit, users can fit a 3.5 inch drive themselves in only a few minutes. It is a much more cost efficient way of expanding a system. The only drawback to the Media Source drive kit is that the internal floppy disk drive must be removed. This should only be a problem for games players. For the more serious users who require large and cheap drives, and already own an external floppy drive, our kit is the cheapest way to get a hard drive into the A1200.'



MediaSource are selling high-quality 85Mb drives for £159.99, 120Mb drives for £179.99 and 170Mb drives for £199.99. CU AMIGA readers can get £20 off the last two prices if they quote this news story and order before the end of the year. For more details call MediaSource on (0247) 471882 or FAX them on (0247) 462446. More new products are expected soon.

BLOCKBUSTING GAMES

Rumours abound amongst the trade press that US media giant Blockbuster could be about to take a huge $1.5 billion stake in Virgin. Here in the UK Blockbuster are best known for their chain of high street video stores but they also own large chunks of US media companies. The immediate benefits to VIE could be improved distribution for their products through the video stores. Longer term, the financing could give them the cash to invest heavily in product development. Virgin have been unable to confirm these rumours beyond the fact that they are talking with a number of companies about financing deals.

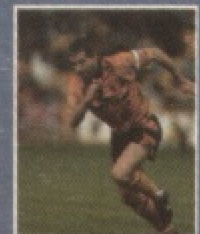
3.5 INCH 270MB REMOVABLE DRIVE

Syquest's new drive offers 270Mbs of re-writable data with their 3.5 inch hard cartridge drive. Looking pretty much like a standard 3.5 inch floppy drive from the outside, the SQ3270 sports an access time of less than 13.5 msecs, and is backwards compatible with the 105Mb Syquest cartridges. According to Syquest, the SQ3270 is the only removable storage device fast enough for 8-channel audio recording and playback. Connection is via an AT/IDE interface. The drive comes with one cartridge, priced at $500 for the complete package. Additional cartridges are available for $150. For further information, contact Herald Communications on 071 222 8515.





LIVE FOOTBALL VIA AMIGA



The two largest outdoor videowalls in Europe are to be installed at Wolverhampton Wanderers home ground. Powered by Amigas these walls form part of the the £14.5 million refurbishment of Molineux Stadium. Each screen measures a massive 19ft x 24ft and comprise 256 monitors, making them almost the same size as a London double decker bus. The walls were designed and built by Watford-based C.D. Interactive Limited and the controlling software behind the screens was written by Optonica specially for this project.

In choosing this type of wall, Wolves made a conscious move away from the standard electronic scoreboards used by most other clubs. 'The videowalls will add an extra dimension to customer communications and in-stadium entertainment for supporters on match days and throughout the week,' said Wolves' Chairman Jonathan Hayward.

»

World of Commodore Show COLOGNE '93



The Cologne Amiga Show is the highlight of the year as far as most Amiga enthusiasts and developers are concerned. If you thought last issue's Pasadena show report was amazing, then you haven't seen anything yet! Strap yourselves in for a roller-coaster ride of all the latest news and product announcements from the world's biggest and best Amiga Show. Hanging on by his fingernails is Ben Vost, our European correspondent.



'Wow!' That was my first impression on walking through the doors of the latest WOC show held in Cologne at the beginning of November. Now I know what it feels like to be packed into a tin of sardines! It was impossible to move at anything more than a snail's pace through the crowds as more than 120,000 people packed the massive halls and alleyways of what has become known as the premier Amiga show in the world. Forget anything you've experienced in the UK or America, the Cologne show is on a totally different plateau. Saturday alone attracted a crowd in excess of 50,000 people and almost everyone was walking away with a big parcel of goodies underneath their arms.

As well as all the different booths to look around and the vast number of new products to gorp at, punters could also try their hand at karaoke on the Commodore stand where David Pleasance gave a splendid rendition of 'Hey Big Spenders' to anyone who was passing.

MACRO SYSTEMS

Probably the best-known German Amiga company exhibiting at the show, Macro Systems had a diverse number of products on display. The Toccata is an internal 16 bit sampler with CD sampling rates, direct to disk sampling and playback plus many other additional features. This card works with A1500/2000s, A3000 and A4000s.

VCode is a PAL encoder to composite and Y/C for video users to convert the Amiga's normal RGB signal to one that can be sent directly to a video recorder. There are internal and external versions available which will be compatible with all Amigas. An updated version of MS's critically acclaimed VLab was also on show. VLab Motion includes Motion JPEG compression and decompression for full-screen video playback of digitised images. Retina, MS's high resolution graphics card, has had yet another upgrade - the BLT Z3 is aimed exclusively at Zorro III users (A3000/A4000) with blitter, up to 4Mb of RAM and now with an optional built-in VCode module.

Another interesting product they were demonstrating, the Maestro Pro, isn't exactly new, but it has never had distribution in the UK. Basically, it's a 16 bit digital I/O card which means it's designed for connection to digital audio media like CD and DAT Players with digital outputs. Meastro takes the digital signal and allows you to play with it, then send it back out as digital data. This means that there is no loss of quality, because the board is *not* sampling, but merely importing the digital data and then exporting it. It's ideal for use in digital mixing studios.

KRP-Koruk

Another unfamilar name, I'm sure, but these guys are the European distributors for *Dynacadd*, an excellent piece of CAD (Computer Aided Design) software available for the PC, Unix and other platforms. They've reduced the retail price for the Amiga version of *Dynacadd* to 598DM, which works out at about £259.99 inc. VAT. As it used to retail for more than £700 in the UK, that's probably why you've never heard of it before.

VILLAGE TRONIC

Village Tronic, the manufacturers of the Picasso high resolution retargettable graphics board, had a large stand showing off their new budget-busting board. They also had a couple of new products to show us, including *Main Actor*, retargettable animation software designed to work on any Amiga, but primarily those fitted with RTG boards. It imports ANIMs and .FLI format files (most animations on the PC are produced in this format). It saves out as ANIM5, 7 & 8, Picasso and will, in the future, import GIF animations and save out FLIs and GIF anims. *Trap Door* is a new fax software program which takes a modular approach to save memory. Obviously it is designed to take full advantage of the Picasso and lets you decode faxes in very high resolutions so you can see a whole A4 page on the screen at once. Last up was Ariadne, a new ethernet card for 10-base-2 or 10-base-t protocols which is SANA-II compliant (Commodore's networking standard) and designed to work with Commodore's Envoy networking software for peer-to-peer networks.

ProDAD

Accolades came thick and fast for ProDAD, the developers of *Adorage*, as they received Product of the Year awards from both Amiga Magazin and Amiga Plus for *clariSSA*. *clariSSA* (yes, it's supposed to have a small c at the start of it!) is to animations what *ADPro* is to still images. With its ability to



Imagine being locked in a small dark cabinet for eight hours with no room to move, and you've got some idea what it was like to be at the show.

I've been to previous Cologne shows, but nothing prepared me for this. Forget the doom and gloom merchants who insist the Amiga is on the way out - this is evidently not true, as more than 150 distributors and developers packed the massive halls of the exhibition stadium. Familiar names here included such well known firms as GVP, Hi-Soft, Gametek and Supra, but the real stars of the show were undoubtedly the little known European firms that have been producing gobsmacking pieces of software and hardware for years, yet have failed (for one reason or another) to make any sort of breakthrough into the English speaking world.

In complete contrast to the pile 'em high, flog 'em cheap philosophy evident at most UK shows, the Cologne event was a much more relaxed affair, with most of the larger companies dedicating a lot of time to demonstrations and advice booths. Village Tronic had an interesting display featuring their Picasso II board (see review elsewhere this issue) with *TV Paint* being put through its paces by one of its creators, Nicola Geley, much to the bemusement of a large crowd whose faces were first digitised and then distorted. Of course, many dealers were flogging VERY large numbers of A1200s and CD32s, as well as the latest games and productivity software (with *Frontier* a complete sell-out after the first day!), but most people were happy to demonstrate their products to anyone who was even remotely interested.

There were also a whole host of seminars running alongside the main show and these covered everything from C programming, viruses, Data compression techniques, system legal programming and, the one which caused the most interest, PhotoCD for the Amiga.

From the above, you'll have probably gathered that this was a show aimed at the high-end Amiga user rather than the gamesplayer. Not surprisingly, the main areas of focus were the hardware stands and Commodore's completely huge exhibit. It was more than four times as big as Commodore's recent stands at both the Live '93 and Future Entertainment shows and was packed with more than 60 CD32s, 60 A1200s and several A4000 workhorses showing such goodies as the Digital Broadcaster from Digital Micronics and the SEK'D sampling system. Even Commodore's UK boss, David Pleasance, was on hand to demonstrate the capabilities of some of their machines.

One disappointment was the non-appearance of the A4000T (the long-promised Amiga tower system launched at the Pasadena show), but the new FMV module for the CD32 was on display and was really put through its paces, showing a mix of pop videos and feature length films.

Retargettable graphics were the order of the day with many programs shown running on Picasso and Retina boards. Networking was also the subject of much interest, with one poor Commodore guy constantly explaining how the Enlan-DFS system worked over and over again to an endless stream of punters. Now that the US market is in decline, the German show has assumed a new importance in the Amiga calendar and ought to be the focus for worldwide attention for anybody remotely connected with the Amiga. Roll on next year.



No, this isn't a scene from Mad Max or some other Post Apocalypse-type movie. This is, in fact, the unpleasant aftermath of holding such a successful show. We pity the poor cleaners that had to tackle this lot!!!!

JARGON BUSTERS

Sometimes we get a little carried away in Amiga jargon so here's a rundown of some of the more specialised terminology we've used in this news report.

RETARGETTABLE GRAPHICS - The ability to select a screen mode to run your software in that's not necessarily a native Amiga mode, depending on which graphics card you have in your machine.

NETWORKING - Connecting more than one machine together to allow shared access to files or programs, the sharing of resources such as scanners and printers between machines without having to unplug the peripheral from one machine and plug it into another. There are two sorts of networks pertinent to the Amiga: Peer-to-peer and Server-terminal. Peer-to-peer networks operate on a 'round-table' kind of basis with the distribution of resources divided between the machines. Server-terminal is more common on the PC with Novell Netware probably the most well-known networking software for the purpose. What happens is that all the machines in the network are connected to one machine called a file-saver which normally holds all the files for the machines that are linked up.

FLI - An animation format developed by AutoDesk, the creators of *AutoCAD* and *3D Studio* on the PC. There are thousands of FLI animations available in the public domain for PCs, but up until now, no-one has ever made an FLI player for the Amiga.

PhotoCD - Kodak's invention whereby rather than getting your photos developed and printed onto paper, they are scanned and recorded onto CD-ROM, which is obviously ideal for magazine publishers or people needing high quality bitmaps, but don't have access to a scanner.

SSA - An animation format which is much smoother and faster than the normal ANIM5 format used by *DPaint* and others. SSA stands for Super Smooth Animation!

change palettes every frame and up to 100% faster playback than ANIM5 using the SSA format, it's an animator's best friend. *clariSSA Professional* was also being demonstrated - this features any-colour keying, fades, wipes and effects inside animations (without needing *Adorage*). Animation speed is up to 80% faster again (!) than *clariSSA* and now has variable animation speed. This product received an 11.5 mark (out of 12) in the latest Amiga Magazin (the highest mark I have ever seen in AM before was 11.2!).

ACTIVA INTERNATIONAL

AI were busily showing off *Real 3Dv2* and a package called MediaPoint which was first shown in a near finished state at last year's WOC. Now finished, it includes script branching, CDTV and laserdisc control, Video Recorder and Canon Ion control, a very intuitive interface, run-time versions of your scripts and more features than you could ever wish for.

CORPORATE MEDIA

There was quite a buzz on the COME stand as they unveiled *PhotoWorx*, an officially licensed PhotoCD software package for any Amiga with a PhotoCD compatible CD-ROM drive. This is capable of producing a contact sheet in any screen mode on the Amiga so it also supports AGA and any RTG graphics boards. It also takes pictures off the PCD in resolutions up to about 2k x 3k in size - mind you, you do need about 18Mb of RAM to do it! With rudimentary colour correction facilities as well as cropping, there is now an English version available, so expect a full review next issue.

EUREKA

Speed freaks will be pleased to hear of Eureka's new Afterburner 50MHz accelerator card for the A3000 and A4000/030. The same card can be fitted to either machine, and comes complete with a Memory Management Unit (MMU). There's provision on the board for a maths co-processor, and up to a whopping 525Mb of RAM in the form of 60ns 32-bit SIMMS. They also had PhotoCD software on display for SCSI CDROM or CD32 with an expansion on the back to slave it to an Amiga (or any other computer for that matter).

PALATINUM

Repro Studio Universal is the Amiga's equivalent of *Adobe Photoshop*. As anyone will know, *Photoshop* has gained itself a tremendous reputation on both the Mac and PC as the ultimate Image Processing tool. Again watch out for a scoop review soon.

IFD

IFD had an absolutely phenomenal TRex model for *Imagine* and *Reflections*. It comes in two different versions, one just a plain model, and one with all the texture maps needed to make your own version of Jurassic Park. Tobias Richter was also on IFD's stand selling his own poster, video and object collection and he told me that the big news as far as all manic ray-tracers are concerned is that *Reflections 3* will be released in English! If you've ever seen any of Tobias' 3D creations you'll already have some idea just how powerful this program can be!

IBM

Curiously, IBM had a large stand opposite CBM's, which seemed to be an odd decision when most of the people looking at the many PCs on their stand were comparing them rather unfavourably to the Amiga! Nice try, IBM, but it looks like you went away from the show with egg all over your face.

COMMODORE WRITES

Want to know what's going on at Commodore HQ? Well here's another exclusive instalment from Commodore's UK General Manager David Pleasance.

This month I thought I'd let you know about what went on at 'Amiga DevCon 93', a very important event in the Commodore calendar that was held from the 23rd to the 24th of October in Hall Hotel, Tillington.

Over 90 of the industry's best developers, including some from overseas, had gathered to participate in what turned out to be a productive two days. The theme of the DevCon was, of course, Amiga CD32, with all areas of the development processes being covered.

After my introductory speech and formal welcome, Lew Eggebrecht, Vice President of Worldwide Engineering, gave a keynote speech, focusing on the R & D activities currently being undertaken in our West Chester, Pennsylvania headquarters. The next generation of Amiga chips, the 'AAA' set, are presently running with 95% functionality, which is an amazing result considering this is only the first silicon stage. These chips will give somewhere between 10-20 times the performance of the 'AGA' chip set used in the A4000, A1200 and CD32.

Back at DevCon, and Chris Ludwig, one of our Software Engineers at CATS (Commodore Amiga Technical Support) did a session on developer tools, procedures and documentations. Next came an enlightening presentation from Toby Simpson of Millennium, who discussed developing on the CD32. Toby, of course, wrote the game *Diggers* which is bundled with the CD32. Sessions on motion video, CDXL and cutting gold disks were all well received.

Of particular interest was the session from Paul Bishop of Nimbus, a company who have invested 3/4 million pounds installing MPEG (Video CD) encoding equipment in their CD manufacturing plant in Wales. The general consensus from the developer community is that Video CD is going to be a huge market, and that CD32 is a wonderful delivery platform for the new media.

During Sunday, Samantha Gemmell talked about making broadcast quality video for TV and commercials, which she produces in her 24-bit A4000 studio. Samantha has just won the Business Woman of the Year award. Mike Blackwell demonstrated the wonderful technology in Canon's amazing ION camera. There is no doubt that the ION and the Amiga were made for each other.

The Developers' Forum was a spectacular success, and the cream of the games developer community are super-hyped about what they are producing for the Amiga CD32. By Christmas we expect to see a minimum of 72 titles in the shops. I'd like to thank you all for your loyal support, and to wish you a very happy Christmas.

CU AMIGA would like to stress that the views expressed herein do not necessarily reflect those of the publishers.



HELP WANTED

Our team of merchandisers are travelling around the country issuing point of sale material, brochures, demo disks etc. If you know of a store that could benefit from a visit from these ladies, or if you are particularly pleased with a store that has been merchandised, please let us know.

Write to: Gill Rimmer, Commodore Business Machines Ltd, Commodore House, The Switchback, Gardner Road, Maidenhead, Berks, SL6 7XA.

WRITE BACK!

One reason for setting up this column was for it to serve as a direct link between Commodore and our readers. So, get writing. David will endeavour to answer as many as possible. Send your questions to: Commodore Writes, CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.

CORRECTION CORNER

DO IT YOURSELF



Here's some news for anyone struggling with the DIY Sampler project published in the May issue. It seems most of the problems are due to a mistake in the original components list: capacitor C1 was mistakenly marked as 7 microfarads when it should have been only 4 microfarads. Unfortunately, an ex-technical editor of ours printed a correction which stated the capacitor should have been 47 microfarads -even worse than the original typo, and probably enough to stop the A/D IC from functioning at all. The author, John Kennedy, is very sorry for these errors and promises he'll try harder in future. He is currently waiting to hear if he has passed his Masters degree in Electronics, although we suspect anyone who has tried his projects will already know the result.

EXPERT DRAW

Some readers have had difficulties in getting last month's *Expert Draw* coverdisk to run in non-interlaced mode. Follow these steps rectify the situation.

1. Load up Workbench or boot from your hard drive.
2. Insert the Expert Draw disk.
3. Double click on the Expert Draw disk icon.
4. Click once on the Expert Draw program icon.
5. If you have Workbench 1.3 (A500, A2000), select INFO from the Workbench menu. Click in the box marked Tool Types and type FLAGS=WB, then press RETURN. Click on the SAVE button.
6. If you have Workbench 2 or above (A600, A1500, A1200 etc.), select INFORMATION from the ICON menu. Then click on the text that says FLAGS=, which will then appear in the box below. Change this to FLAGS=WB, press RETURN and click on the SAVE button.
7. Double click the *Expert Draw* program icon to load it.



COMPETITION PHONE LINES

As we mentioned last issue, the phone numbers on last month's competition scratch card were unobtainable from outside the UK. If your panel revealed the numbers 0839 505772, -773 or -774, you've won a £5 discount off *Mortal Kombat*, *Terminator 2 - The Arcade Game*, *Goal* or any other Virgin game from our list. Normally any Virgin game would cost you £29.99, but with the discount you can get your hands on one for just £24.99.

If your card panel revealed the number 0839 505 771, you've won a free Virgin game. Take you r pick from their current range, which includes *Mortal Kombat*, *Terminator 2 - The Arcade Game*, *Dune 2*, *Global Gladiators*, *Goal* and *Reach for the Skies*. To claim your discount, or free game, fill in your details on the back of your scratchcard, and enclose a cheque or postal order for £24.99 if you've won a discount, and send it to: Ayendrie Nawlalage, customer Services, Virgin Interactive Entertainment, 338A Ladbrooke Grove, London, W10 5AH. Don't forget



OPALVISION GOING CHEAP

If you've been hankering for a 24-bit graphics board, but been put off by high prices, this could be your lucky day. Indi Direct Mail are offering the acclaimed Opalvision board for a knock-down price of £349.99 for a limited period. The Opalvision board is compatible with all the big box Amigas from the 1500 to the 4000. Contact Indi on 0543 419999.

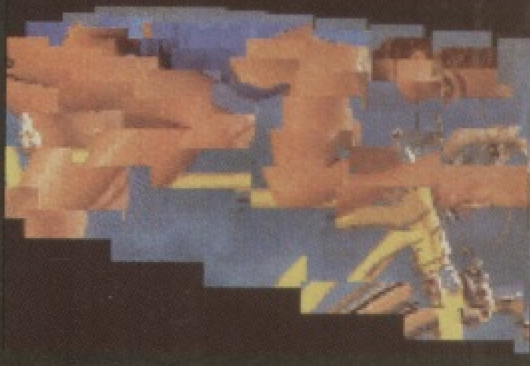
21 INCHES OF PURE COLOUR

The new Viewsonic 21 inch colour monitor could be just the thing to show off your new 24-bit graphics board. With its 0.25mm dot pitch, 76Hz refresh rate at a resolution of 1280 x 1024, and maximum non-interlaced resolution of 1600 x 1280, it also features a DQ-DAF focus gun and controls to match the screen colours to the output from your printer or standard colour palettes. The screen itself has a protective ARAG anti-glare coating. Connection is either through BNC plugs or a 15 pin D-plug. The Viewsonic 21 automatically adjusts itself to horizontal scanning frequencies from 30 to 86KHz, and vertical frequencies from 50 to 152KHz. Contact Viewsonic US on 0101 909 468 0329.



BVCC GETS PRODAD RIGHTS

Products from animation and video software developers ProDAD are now to be distributed in the UK exclusively by BVCC. These include the video effects package Adorage 2 (see review this issue) and the forthcoming ClariSSA, a new animation format which promises increased playback rates of up to 150% over the Anim5 format, and improved palette control. BVCC will also be handling all technical support and upgrades for both products. BVCC can be reached on 81 567 4623.





MEDIA BACKGROUNDS

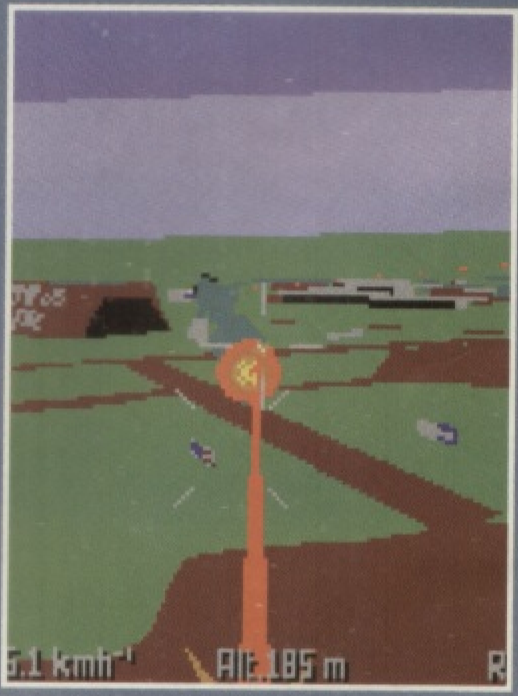
Galaxy Grafix have a new set of clip art backgrounds for use in multi media applications. The images include things such as computer keyboards, books, CDs, disks, videos, textures and more. All have been reduced from 24-bit originals to 16 colour overscanned high resolution IFF files. Care has been taken to ensure that there are no "alpha channel" background colours used, which would show up as holes when used with a genlock. The images are available on three disks priced at £14.95 for the set, from Galaxy Graphics. Tel: 0792 290998.

AMIGA CHARTS TOP TEN

Straight in at number one for Gametek's *Frontier*! After a massive 100,000 worldwide ship out it's not surprising that it's sold so well. Gerry Berkley, Computer Games Manager for HMV, is highly pleased having sold out on day one and having had to re-order copies twice since then. 'We haven't seen anything like this before. It's just the sort of thing the Amiga needs.' In fact, *Frontier* is the biggest selling game on all formats, even beating *Street Fighter* on the SNES. Let's not forget the other top sellers though, once more Team 17 are high up there with two new titles, but Psygnosis win this month's prize for The Most Games In The Top Ten From Any One Publisher.

1. *Frontier – Elite 2 (Gametek)*
2. *Alien Breed 2 (Team 17)*
3. *Hired Guns (Psygnosis)*
4. *Body Blows Galactic (Team 17)*
5. *Premier Manager 2 (Gremlin)*
6. *Micro Machines (Codemasters)*
7. *Combat Air Patrol (Psygnosis)*
8. *European Champions (Ocean)*
9. *Theatre of Death (Psygnosis)*
10. *Alien 3 (Acclaim)*

(Charts supplied courtesy of HMV Games.



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The BBC Radio 1's TV and Radio presenter



THE JAKKI BRAMBLES COLUMN

Well OK then you Mums and Dads, it's that time of the year again when letters to Santa are coming your way. We get a lot of phone calls at this time of year from you guys because it really isn't that easy to decide which of the mega bundles to buy. So this month we have an easy guide to help you make that really important choice.

Amiga 600 Single Drive - The ONLY home computer for **less than £200**. Suitable for the child fed up with paying out £40 for software for their Megadrive (software available from £9.99) or for the first time buyer. There are hundreds of software titles available including games, education, word processing, home accounts etc. Games available include strategy / role playing, titles where imagination is more important than aggression, learn to create animations not zap aliens aimlessly. **Age Group 8 - 13**

A600 Hard Drive - A more serious version of the above. The hard drive saves repeatedly loading and swapping floppy disks. Suitable for serious games players and applications such as database management for a student or home office environment. The Epic Pack is particularly useful for a foreign language orientated student. **Age Group 12 +**

Amiga 1200 Desktop Dynamite - The perfect solution for the student. You want him or her to have a computer to produce school work using quality Desktop Publishing software, he / she wants a dynamic games playing machine. This gives both of you what you are looking for. The software alone is worth over £300.You can expand this computer through the addition of hard drives, extra memory, accelerator boards whatever the option most suitable for producing any number of serious applications. Want to be a graphic artist, video producer, film director, cartoon animator, musician, mathematician, designer..... the only limitation to the machine is your imagination. **Age Group 14+**

Amiga CD32 - The choice for existing Amiga owners looking for the latest product in the range or for the dedicated console owner. Knocks the Sega for six with its State - of - the - Art graphics. (Colours on screen Sega = 64/ CD32 = 256 or 262,000) and processing speed (Sega = 16-bit / CD32 = 32-bit) To you or me this means that people who write the games can now display more colours on screen and the action can be even faster. Also be aware this is also a Compact disc player with full four voice stereo sound so you can play your favourite CD's when the kids are at school. Connects to standard TVs and most hi - fi's.
Age Group 10+

I hope this info assists. With Commodores help I'm certain that there will be thousands of happy smiling faces on Christmas Day, but if you're still not sure give Indi a call they will be delighted to help.

P.S. Indi tell me that they are able to extend the ***"At Home Service"*** *on most new Commodore products to a full 3 years for as little as £39.99 through their agreement with* ***ICL****, the Giant European Warranty Company. Might be worth checking out for that extra peace of mind.*

Jakki Brambles

BUY NOW PAY 1994!!!!

Christmas is a very expensive time of year so here's an offer that really helps you buy in time for Christmas and spreads the cost over next year. Choose any Indi product (or mix of products) valued at over £200, pay 10%deposit and start paying again in 3 months time. **Here's how it works**, choose your products and telephone **Indi on 0543 419999** and ask for Credit Sales. We will ask you a few questions, explain to you what you will pay and when and then complete our credit check. Within 24 hours we will be able to clear your order and subject to status deliver your products to you.
To save time it is important that when you call us you have your Bank details handy and that you satisfy the three main questions:
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If you cannot answer yes to all of these questions perhaps the credit agreement would be in someone elses name if so then they should telephone us. Once you are accepted we will ask for a 10% deposit. If you pay by credit card we will be able to release the products straight away, If you send us a cheque, it will take a few extra days. The only other decision that you will have to make is do you wish to spread the payments over 6, 12, 18, 24, or 36 months? **The choice is yours!**

AMIGA CD32

FREE SOFTWARE
Lemmings, Oscar, Diggers

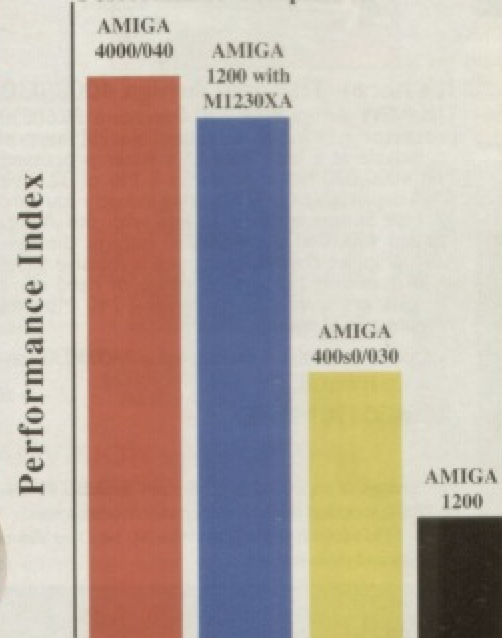


The exterior may be sleek but lurking inside the Amiga CD32 is a technological wonder.
At it's heart is the mightily powerful 68EC020 processor from Motorola. This contains the 32 - bit technology which has made the Amiga 1200 a runaway success throughout Europe.Alongside it is Commodore's unique custom AGA (Advanced Graphics Architecture) chipset - comprising three chips nicknamed Paula, Lisa and Alice.
Together they make Amiga CD32 and awesome powerhouse of high speed graphics and stunning sound capabilities. In fact, the machine can display 256,000 colours on screen (compared to Sega's Mega CD which can only display 64) and has a total colour palette of 16.8 million colours.
Amiga CD32 also comes with a chunky 2 Meg of RAM (that's15 times more than Mega CD) and a double speed drive.

SPECIFICATIONS:

* 14 MHZ 68EC020 processor
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* Composite video jack
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We've said it before and no appologies for repeating it. Adding an Indi Microbotics M1230XA card to your Amiga 1200 turns it into a MEAN MACHINE!



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WARNING

Some advertisers are fitting 3.5" drives to Amiga 1200. The Amiga was never designed to accept 3.5" drives and fitting one totally invalidates any Commodore Warrent... Indi only offer official 2.5" IDE drives officially accepted b... Wang, ICL and Commodore.

AMIGA A4000



NEW PRICE

It's here - The new Amiga 4000/030

The NEW Amiga 4000/030 features a EC68030 processor running at an incredible 25Mhz, and upgradable at a later date to a faster processor. The 4000/030 has a powerful 2 Mb of 32 - bit RAM expandable to 18 Mb using industry standard 32 - bit Simms module. In line with the Amiga Flagship 4000/040 the 4000/030 features the new AGA graphics chipset, giving you a massive pallet of 16.8 million colours. A range of hard drive options are available from 80 - 240 Mb and includes a SCSI option.

Without a doubt this is the best value A4000/030 configuration in the UK

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NEW MONITOR RANGE

THE NEW DUAL SYNC1942 Monitors have been specially designed for the New Amiga 1200 and 4000 computers. Both monitors feature built - in stereo speakers.

INDI 301011
1942 Monitor £349.99

14 inch screen size - 0.28 mm dot matrix

Parnet Adaptor for CDTV

Connect a CDTV player to any Amiga, and access the world of CD - ROM software.The Parnet interface and software will allow the Amiga CDTV to be used as a CD - ROM drive withe any Amiga and will give any Amiga owner access to the vast range of CDTV software currently available.

The CDTV player offers excellent value for money when compared with a standard CD - ROM drive and interface. Most CD - ROM drives will set you back over £400 while CDTV will cost you less than £300 and will play audio CD's in addition to CD - ROM / CDTV disks your Amiga, interface cable and PD disk with driver software for your CDTV player. **(The Parnet adapter can be used to link any Amigas together)**

INDI 309003 **£39.99**

EXPORT ENQUIRIES

Did you know that Indi regularly deliver throughout the world? Fax or Telephone us for an immed... ate response.

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TEL: (44) 543 419999
FAX: (44) 543 418079

AMIGA A600 PRICE CRASH



THE WILD THE WEIRD AND THE WICKED A600 is an ideal starter pack containing a considered mix of software, making the most of the Amigas capabilities.

PACK CONTAINS:
* A600 Single Drive
* Built in TV Modulator
* 1 Mb Memory
* Pushover: Grandprix
* Silly Putty: Deluxe Paint III
* Mouse and Manuals

LOW LOW PRICES
INDI 300006
~~£215.99~~
£199.99

A600 - SD A single drive Amiga for those of you requiring a basic A600 at a very competitive price.
PACK INCLUDES: A600 single drive, built in TV modulator, 1 Mb memory. 12 Months at home service

INDI 300007 ~~£189.99~~ **£169.99**

A600 EPIC PACK (40 Mb HD) PACK INCLUDES:
A600 Hard Disks (40Mb) * 1 Mb Memory * Epic * Rome * Myth * Trivial Pursuit * Amiga Text * Deluxe Paint III * 12 Months at home service.

INDI 300008 ~~£379.99~~ **£279.99**

INDI A600 ACCESSORY PACK
* Microswitched Joystick * Lockable Disk Box * Disk Wallet * 10 Blank Disks * Kick Off 2 * Pipemania * Space Ace * Populous * Zapsac A600 Carry Case
* Zappo T - Shirt.

INDI 309000 WORTH ~~£79.99~~ **£26.99**

TEL: 0543 419 999 FAX: 0543 418 079

CREDIT AVAILABLE ON 6,12, 18, 24, 36 MONTHS.

WHY NOT RING NOW FOR A QUOTE. SAME DAY RESPONSE.



AMIGA PERIPHERALS & ACCESSORIES

NEW FROM MICROBOTICS!!!. M1230XA ACCELERATOR LAUNCH!!

Microbotics beats the competition in price/ performance/ features and configurations. INDI is very pleased to announce the availability of the new 68030 accelerator product for the A1200: the microbotics M1230 XA (call it the "XA" for short). 50 Mhz as standard! Huge 128 MB memory design is standard (the biggest memory space in any A1200 peripheral) just look at these specifications and prices!

M1230 XA W/40 MHZ EC 030 OMB **INDI PRICE £239.99**
M1230 XA W/40 MHZ EC 030 4MB **INDI PRICE £369.99**
M1230 XA W/40 MHZ EC 030 8MB **INDI PRICE £599.99**
M1230 XA W/50 MHZ MMU 030 0MB **INDI PRICE £319.99**
M1230 XA W/50 MHZ MMU 030 4MB **INDI PRICE £479.99**
M1230 XA W/50 MHZ MMU 030 8MB **INDI PRICE £711.99**

MBX1200.

The original and best floating point unit and memory upgrade for the Amiga A1200. Available with 0,4 or 8 MB of 32 bit Fast RAM and a choice of floating point units.Now complete with real time clock (RTC)

MBX1200Z 68881 14 MHZ 0MB **INDI PRICE £109.99**
MBX1200Z 68881 14 MHZ 4MB **INDI PRICE £249.99**
MBX1200Z 68881 14 MHZ 8MB **INDI PRICE £449.99**
MBX1200Z 68882 25 MHZ 0MB **INDI PRICE £169.99**
MBX1200Z 68882 25 MHZ 4MB **INDI PRICE £309.99**
MBX1200Z 68882 25 MHZ 8MB **INDI PRICE £519.99**
MBX1200Z 68882 50 MHZ 0 MB **INDI PRICE £289.99**
MBX1200Z 68882 50 MHZ 4MB **INDI PRICE £439.99**
MBX1200Z 68882 50 MHZ 8MB **INDI PRICE £599.99**
68882 FPU UPGRADE 50 MHZ **INDI PRICE £169.99**

AUDIO VISUAL



MEGAMIX. Low cost, hi spec digital effects cartridge plugs into the printer port of the Amiga. Allows stereo sampling from almost any musical source.

INDI PRICE £29.99 INDI 350000



TAKE 2. Animation package is a must foe computer artists and enthusiasts of all ages. As used in Rolf Harris Cartoon Club.

INDI PRICE £37.99 INDI 350001



VIDI AMIGA 12. The ultimate low cost colour digitiser for the Amiga. "The best value full colour digitiser on the market" AMIGA FORMAT.

INDI PRICE £74.99 INDI 350002

ROMBO VIDI AMIGA 24(RT). For the more serious user, this 24 - bit version will again capture from from any video source with true photo realistic images! A staggering 16.7 million colours can be utilised with incredible results. Full AGA chipset support.

INDI PRICE £219.99 INDI 350004



ROCTEC ROCGEN PLUS.
As above but with extra features such as tinting and signal inversion. Allows for real time editing of graphics. Compatible with all Amigas.

INDI 350050
INDI PRICE £129.99

ROCTEC ROCKEY.
The ultimate accessory for Amiga / Video fans. Separate RGB controls to chroma key on any colour.

INDI PRICE£249.99 INDI 350051

ROMBO VIDI AMIGA 12 (RT). Based on the best selling Vidi Amiga 12. This all new version offers real time colour capture from any video source. Full AGA chipset support as standard for all A1200 / 4000 users.

INDI PRICE £129.99 INDI 350003

DISK DRIVES



ZAPPO EXTERNAL FLOPPY
You've seen all the reviews on this popular and affordable second Amiga drive. Compatible with all Amigas.

INDI 350152
INDI PRICE £49.99

Quality: 9 out of10. Exceptional value for money. AMIGA COMPUTING JAN 93

AMIGA PERIPHERALS



2MB SMARTCARD. The original and still the only fully PCMCIA compatible memory card for A600/ A1200.Comes with lifetime guarantee. Beware of cheap imitations.
INDI PRICE £109.99
4MB SMARTCARD. Same as above but maximum 4MB.
INDI PRICE £159.99

ZAPPO 601
Trapdoor upgrade for the A600, 1Mb with RTC **INDI PRICE £49.99**
ZAPPO 601 INC As above only 512K, no clock **INDI PRICE £29.99**



1084S MONITOR.
Commodores original and best selling colour stereo monitor.
DOES NOT INCLUDE STAND.

INDI 350014
£189.99
(£179.99 if purchased with A600 / A1200 / A1500)

OPAL VISION



NEW FOR DECEMBER RELEASE!

The already acclaimed Opalvision Board takes three further leaps into the future with the official launch of the Opalvision modules. With truly awesome capabilities the Amiga can now become the most professional 24 - bit video graphics power station ever!

The NEW OPAL VISION system(Rev.2)
The amazing Opalvision 24 - bit graphics board and software suite has been updated and is now even better value for money.
The software suite now includes:
Opal Paint V2.0 - Now includes full magic wand implementation and Alpha Channel that allows photo compositing with selectable levels on a pixel by pixel basis.The new Chrominance effect allows absolute, real time control of image contrast, brilliance and re - mapping of colours.
Opal AnimMATE V2.0 - ofering real time play back of animations created by ray tracers, landscape generators, morphers and all other 24 - Bit software.
Opal Hotkey V2.0 - Display OpalVision graphics anytime with key combinations.

"Quite simply, it's a spectacular product - ***Amiga Computing***
"Undoubtedly the finest, most professional paint program to arrive on the Amiga" - ***Amiga Format***
"Professional quality at this Price can't be turned away" - **Amiga User International**
"The verdict was unanimous - brilliant"
- ***Amiga Shopper***

INDI 350250

£349.99

Exclusive Indi Price

MORPH PLUS

You've seen Micheal Jackson's video, you've seen the television adverts using the latest techniques in morphing, now now you can create the same results but at a fraction of the cost. Morph Plus is the latest and the ultimate in this technology. Whether you are a professional artist or just want to experiment at home Morph Plus is a must.

INDI PRICE £109.99 INDI 350200



DELUXE PAINT IV AGA

Combines powerful tools with an intuitive interface so both professionals and beginners alike can get superb results quickly. New enhancements to the software include the ability to paint and animate in 4696 colours in the Amiga's HAM (Hold and Modify)mode. New animation features also include metamorphosis allowing you to change one image into another. You determine the number of frames and DPaint IV does the rest.

INDI PRICE £61.99 INDI 350201

ART DEPARTMENT PROFESSIONAL

The ultimate in image processing providing many key benefits to Amiga users working with pictures.With ADPro you can read, write and convert between most common image file formats with unmatched flexibility. Full support for JPEG image makes it possible to maintain an image library in full 24 - bit colour without needing massive hard drive storage. Typically a 600 Kb image can be compressed down to 40 Kb!!

INDI PRICE £132.99 INDI 350202

REAL 3D V2

Is a full featured 3D animation, modelling amd rendering program. With Real 3D V2 you can produce high quality images and animations of three dimensional models with an astonding level of realism. Imagine creating an animation that shows a handfull of balls bounce down a flight of stairs to the bottom. Gravity, colliision, deflection and the elasticity of the balls are all automatically calculated by the program!



INDI PRICE£299.99 INDI 350203

SCALA Multimedia 200 (MM200)

Is the ultimate on professional video titling. The eminent design of typefaces, the unlimited choice of typographical details, the high resolution and the more than 80 exciting wipes result in video captioning of exquisite quality. No wonder that Scala is used by leading television stations around the world.

INDI 350204

INDI PRICE £139.99 also available

SCALA HOME TITLER

INDI PRICE £84.99 INDI 350205

VIDEO DIRECTOR

With Video Director, anyone with an Amiga, a camcorder and a VCR can quickly and easily catalogue and edit the best moments from their video tapes. Video Director is extremely easy to use, you can actually control your camcorder and VCR from your Amiga screen . Video Director comes with everything you need to get started. The hardware to control your camcorder* and VCR is included

INDI PRICE £119.99 INDI 350206

*Camcorder must have a LANC or Control L compatible port

Professional software is imported and sometimes subject to delay. Confirm delivery at time of order.

TERMS AVAILABLE OVER 6, 12, 24, & 36 MONTHS SUBJECT TO STATUS.

WHY NOT RING FOR A QUOTE. SAMEDAY RESPONSE. (SEE EXAMPLE)



Panasonic *Quiet* *Colour Printing*

We researched the colour printer market at great depth to find a colour printer good enough to cope with Amiga's powerful output, yet at an affordable price.
We found the perfect printer in the KX - P2180 and KX - P2123 quiet printers.
We then considered that if you were going to buy a Panasonic printer you would probably need a quality word processing package to use with it. We found that too, with 'Wordworth' yet at a retail price of £129.99 we thought that might be a little too expensive on top of your printer purchase! So together with Panasonic we decided to give a copy of 'Wordworth' free with every Panasonic printer. How's that for added value?

Panasonic KX - P2180



***WORDWORTH AGA COMPLETELY FREE!**
WITH PANASONIC QUIET PRINTERS. The writers choice. The ultimate word processor for AMIGA computers. Wordworth is undoubtedly the ultimate word / document processor for the full range of AMIGA computers. The graphical nature of WORDWORTH makes producing documents faster and easier, with the enhanced printing fonts (including full Panasonic KX - P2180 and KX - P2123 colour printing support), Collins spell checker and thesaurus, no other word processor comes close. "Without doubt this is one of the best document processors for the AMIGA, Today" (Amiga Format)
NORMAL RRP £129.99 inc. VAT

INDI 320000

£169.99

The new Panasonic KX - P2180 9 -pin quiet printer. Produces crisp clear text in mono or in 7 glorious colours with new quiet technology. THe new KX - P2180 is typically 15dBa quieter in operation, than the competition.

* **Fast Printing** Speeds 192 CPS NLQ
* **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta,black)
* **Quiet printing** Super quiet 45 - 48 dBa sound level (most matrix printers are typically in excess of 60 dBa)
* **6 Resident Fonts** Over 6,100 type styles using Courier Prestige, Bold PS, Roman, Script and Sans Serif Fonts.
* **3 Paper Paths** Paper handling from bottom, top and rear for total flexibility
* **1 Year Warranty** for total peace of mind

Panasonic KX - P2123



INDI 320001

£219.99

The new high performance Panasonic KX - P2123 24 pin. Quiet colour printer offers leading edge quiet printing technology at an affordable price

* **Fast Printing Speeds** 192 CPS draft, 64 CPS LQ and 32 SLQ.
* **Colour Printing** 7 colour palette (blue, red, green, yellow, violet, magenta, black)
* **Quiet Printing** Super quiet 43.5 - 46 dBa sound level (most matrix printers are typically in excess of 60 dBa)
* **7 Resident Fonts** Over152,000 type styles using Super LQ, Courier Prestige, Bold PS, Roman, Script, and Sans Serif Fonts.
* **24PIN Diamond** Printhead High performance and high quality output
* **1 Year Warranty** for total peace of mind.

Panasonic LASER PRINTER

KX - P4410 LASER PRINTER





WORDWORTH AGA COMPLETELY FREEWITH PANASONIC LASER PRINTERS. The writers choice. The ultimate word processor for AMIGA computers NORMAL RRP £129.99 inc VAT

KX - P4430 LASER PRINTER



Once again INDI have joined together with Panasonic to offer all Amiga owners the most outstanding Laser Printer offer ever. We are now able to offer high quality, professional laser printing at affordable prices. We are also giving away a copy of Wordworth with every Panasonic Laser Printer purchased (RRP £129.99). Whether you are looking for a laser printer to handle word processing, DTP, presentation or complex graphic applications - the Panasonic range offers you the power to meet your requirements.

KXP - 4410

SAVE £50

* 5 pages per minute
* 28 resident fonts
* Optional 2nd input bin(total printer capacity 2 x 200 sheets)
* Low running costs
* Parallel interface
* Optional memory expansion to 4.5 Mb (0.5 as standard)
* HP laserjet II Emulation

INDI 320002

NEW LOW PRICES!

£499.99 inc. VAT

WORDWORTH AGA COMPLETELY FREE WITH LASER PRINTERS

Panasonic 2 YEAR ON-SITE WARRANTY

KXP - 4430

SAVE £50

* Satinprint (optimum resolution technology)*
* 5 Pages per minute
* HP Laserjet III Emulation, PCL 5
* 8 Scalable fonts & 28 bitmap functions
* Optional 2nd input bin (total printer capacity 2 x 200 sheets
* Optional memory expansion to 5.0 Mb (1 Mb as standard)

INDI 320003

NEW LOW PRICES!

£649.99 inc. VAT

*(Satinprinters use optimum resolution technology to produce truly outstanding print quality. This software technique smooths away traditional jagged edges on curved characters and lines by varying the printed dot size

WORDWORTH AGA COMPLETELY FREE WITH LASER PRINTERS

Panasonic PRINTER ACCESSORIES



1) PANASONIC AUTOMATIC SHEET FEEDER
Automatic sheet feeder for KXP 2180/ KXP 2123 holds 80 A4 sheets. **INDI PRICE £89.99**

2) PRINT DUST COVER
Specially tailored quality dust cover for Panasonic KXP 2180/ KXP 2123 printer. **INDI PRICE £8.99**

3) PRINTER STAND
2 piece printer stand. **INDI PRICE £9.99**

4) PAPER PACK
500 sheets quality A4 paper. **INDI PRICE £9.99**

5) CONTINUOUS PAPER
2000 sheets 1 part listing paper. **INDI PRICE £19.99**

6) PARALLEL PRINTER CABLE
To be used when connecting Amiga to Panasonic printers. **INDI PRICE £8.99** (£5.99 if purchased with a printer)

7) PANASONIC COLOUR RIBBON
Colour ribbon for KXP 2180/ KXP 2123. **INDI PRICE£18.99**

8) PANASONIC BLACK RIBBON
Black ribbon for KXP 2180/ KXP 2123. **INDI PRICE £9.99**

SAVE £££'S ON THE FOLLOWING ACCESSORY PACKS

PACK 1
PANASONIC COLOUR RIBBON PACK
Contains 6 colour ribbons for the KXP 2123 RRP £119.99.
INDI PRICE £89.99 SAVE £30!!!

PACK 2
PANASONIC RIBBON PACK
Contains 2 black and 4 colour ribbons for KXP 2180/ KXP 2123.RRP £99.99.
INDI PRICE£69.99 SAVE £30!!!

PACK 3
PANASONIC DELUXE ACCESSORY PACK
Contains automatic sheet feeder, 2 black ribbons, 2 colour ribbons, 1 dust cover, 2 piece printer stand. RRP £169.99 **INDI PRICE £139.99** SAVE £30

Add £2.50 carriage to all printer accessories or combinations thereof

TEL: 0543 419 999 FAX: 0543 418 079

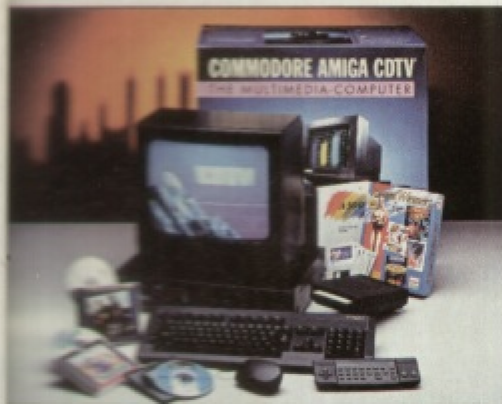
LOW INTEREST CREDIT ON ALL ORDERS OVER £200
(PLEASE CALL FOR A QUOTATION, SUBJECT TO STATUS)





AMIGA CDTV — THE MULTIMEDIA COMPUTER TOTAL HOME ENTERTAINMENT SYSTEM

PRICE CRASH!!!



PACK CONTENTS AS STANDARD
* Amiga CDTV Player
* CDTV Keyboard
* CDTV 1411 3.5" Disk Drive
* CDTV Infra Red Remote Controller
* CDTV Wired mouse
* CDTV Welcome Disk
* Manuals
* Fred Fish CDTV Disk

INDI 30 0011

PACK AS SHOWN £229.99

AMIGA CDTV EXTERNAL HARD DISK DRIVE

You've got the CDTV, you've got the keyboard and the floppy disk drive - for a total computer solution all that's needed is an ultra fast hard disk drive.
The CDTV - HD unit boasts a massive **60 Mb of hard disk** storage with lightning fast access times through its SCSI interface. The unit comes complete with Workbench 1.3 and all necessary cables.

INDI 350300

£219.99

If you are thinking of buying CDTV or already own one you'll be pleased to know that INDI stock all CDTV accessories and software that are available from manufactures. We believe in CDTV and we therefore continue to support this exciting product. You will always have a source of product for your CDTV from INDI.

L to R

CDTV Encore SCSI Controller + Internal Mount	£59.99
CDTV Internal Genlock	£ 99.99
Black 1084S Colour Stereo Monitor	£189.99
(When purchased with CDTV Multi - Media Pack)	£179.99
CDTV Remote Mouse	£39.99
Scart TV / Monitor Lead (inc Stereo Phono Lead)	£14.99
CDTV Trackball	£69.99

BLACK 1084S MONITOR

...last the CD 32 Monitor you have been waiting for. The original and best selling colour/ stereo monitor from Commodore is now available in black to complement your CD 32.

INDI 300010 **£179.99**

AMIGA CDTV SOFTWARE

New Amiga CD 32 AGA Titles Now in Stock!!

...RTS AND LEISURE	
...anced Military Systems	£29.99
...omen in Motion	£29.99
...ness Disc of Records	£34.99
...imals in Motion	£29.99
...onnoisseur Fine Arts	£34.99
...uits & Vegetables	£34.99
...ees & Shrubs	£34.99
...door Plants	£34.99
...DUCATION	
...n School - Under 5's	£24.99
...ong Hard Day at the Ranch	£34.99
...Bun for Barney	£29.99
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...n School for 5 to 7	£24.99
...n School for Over 7's	£24.99
...eather Hits her First Home Run	£34.99
Mind Run	£29.99
Mud Puddle	£34.99
My Paint	£29.99
Paper Bag Princess	£34.99
Scary Poems for Rotten Kids	£39.99
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Tale of Peter Rabbit	£39.99
Thomas 's Snowsuit	£34.99
Moving Gives me Stomach Ache	£34.99
Barney Bear Goes Camping	£29.99
Asterix French for English I	£34.99
Japan World (PAL)	£49.99
Fractal Universe	£34.99
Read with Asterix	£19.99
ENTERTAINMENT	
Battlechess	£39.99
All Dogs Go To Heaven:Electric Crayon	£34.99
Classic Board Games	£34.99
Sim City	£29.99
Trivial Pursuit (PAL)	£49.99
Wrath of the Demon	£29.99
Raffles	£34.99
Prehistorik	£34.99
Snoopy	£34.99
European Space Simulator	£34.99
Global Chaos	£29.99
Turrican II	£29.99
Guy Spy	£29.99
Curse of Ra	£24.99
Space Wars	£29.99
Defender of the Crown	£29.99
Tiebrake Tennis	£19.99
MUSIC	
Music Maker	£34.99
Remix	£29.99
Voicemaster + Microphone	£39.99
Music Colour	£39.99
NEW AMIGA CD32 TITLES	
James Pond AGA	£26.50
D Generation AGA	£26.50
Pinball Fantasies AGA	£28.50
Whales Voyage AGA	£26.50
Trolls AGA	£28.50
Jurrasic Park AGA	£28.50
Alfred Chicken AGA	£22.50
T-F-X AGA	£31.50
Sleepwalker AGA	£28.50
Morph AGA	£28.50
REFERENCE	
American Heritage Dictionary	£49.99
Complete Works of Shakespeare	£29.99
Illustrated Holy Bible	£29.99
New Basic Electronic Cookbook	£39.99
Timetable of Business	£39.99
Dr Wellman	£54.99

Software titles in green are compatible with the new Amiga CD32

AMIGA ACCESSORIES

Sharp Monitor / TV

The Superb Sharp 14" Monitor / TV provides a real alternative to a Commodore Monitor with full function remote control 39 channel electronic auto search tuning, digital on screen display and 1.5 watt mpo audio output, all you need to know is the **Low, Low Indi Price.**
So, unless you need High resolution graphics look no further, the Sharp Monitor / TV is the product for you complete with connectivity cable and including 12 Months Warranty

£169.99

NEW LOW PRICE IDE INTERNAL HARD DRIVES

Indi can now offer top quality 2.5" Internal Hard Drives for the Amiga 600 and 1200 at unbeatable prices. All drives come complete with a cable and installation software.

80Mb	2.5" Internal Hard Drive	£179.99
120Mb	2.5" Internal Hard Drive	£200.99
170Mb	2.5" Internal Hard Drive	£239.99



Commodore MPS 1230 Printer

A high quality 9 - pin printerwith paper and tractor feed and is fully compatible with Epsom FX80 and IBM Industry standards. High speed 120 CPS draft mode and an NLQ mode of 24 CPS.
Indi Added Value Free
D - Print - Design greetings cards, letters and posters.
Amiga Logo - Educational and programming language.

£99.99 **INDI 300015**

A2286 AT EMULATOR

The A2286 AT emulator kit offers IBM AT compatibility on the Amiga 2000 and 3000 systems, running at 10Mhz with 1Mb RAM and CGA graphics. The A2286 emulator also includes a 5.25" 1.2Mb floppy drive and MS DOS operating software.
INDI PRICE £159.99

A2091 CONTROLLER CARD

The 2091A is an autobooting SCSI controller card with the facility to mount the SCSI Hard Drive directly onto the controller card. The 2091A also has the facility to take upto 2Mb RAM (1/2 Mb steps). The A2091A controller is zorro II compatible and is therefore suitable for the Amiga 2000 although it does offer an ideal solution for the Amiga 4000/030, where leading edge performance is not require. The A2091A is still the most reliable Amiga SCSI card available and with the supplied software is the easiest way to install.
INDI PRICE £79.99

A2630 -2Mb ACCELERATOR BOARD

The 1630 is a 68030 accelerator board running at 25Mhz complete with a 68882 FPU and 2Mb of 32 - Bit fast RAM suitable for the A2000. THe 2630 board brings the performance of the Amiga 2000 upto nearly that of the A3000, ideal when running professional applications. An additional 2Mb of 32 - Bit fast RAM can be added to the 2630 board, giving a total of 4 Mb of fast RAM.
INDI PRICE £369.99

A2088 XT EMULATOR KIT

The A2088 XT emulator kit offers IBM compatibilityon the Amiga 2000 and 3000 systems, running at 4. 77Mhz with 512Kb RAM and CGA graphics. The A2088 emulator also includes a 5.25" 360K floppy drive and MS DOS operating software.
INDI PRICE £79.99

A2300 GENLOCK

A cost effective home quality entry level internal genlock, suitable for the Amiga 2000/3000. The 2300 genlock is an ideal solution for anyone wishing to put titles or graphics onto home video.
INDI PRICE £39.99

A2058 RAM BOARD

An 8 Mb 16 - Bit RAM board, supplied with 2Mb RAM and upgradable in two steps. The 2058 is a zorro II compatible and they are compatible with the A2000.
INDI PRICE £99.99

DESPATCH

All orders received by 6pm Monday to Friday are despatched sameday for delivery using our national courier - Securicor. (UK Mainland only). Saturday deliveries are available at a small surcharge. If you are out when we deliver, a card will be left at your home giving you a contact telephone number to arrange a convenient re - delivery.
Delivery queries can be resolved immediately using our on - line computer.
Cheque orders are despatched immediately on cheque clearance, usually 10 working days from receipt. A delivery charge of £5.00 is made per item unless otherwise stated.
WE ALSO ACCEPT B.F.P.O. ORDERS (DUTY FREE) CARRIAGE CHARGE AT UK POSTAL RATES.

HOW TO ORDER

BY POST - Simply fill in the coupon below.
BY PHONE - phone lines open9.00am - 7.00pm Mon - Fri. 9.00am - 4.30pm Sat. - where your call will be answered by one of our INDI sales team. After 7.00pm each day your call will be answered by answerphone. If you would like to place an order have all the details at hand including credit card. All offers subject to availability. Prices correct at time of going to press. May we suggest you call before ordering.

SEND YOUR ORDER TO:

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1 RINGWAY INDUSTRIAL ESTATE,
EASTERN AVENUE,
LICHFIELD
STAFFS. WS13 7SF

CUXM93

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Price.. + Delivery.

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or charge my Access/ Visa No..............
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COVERDISK 70

This month's coverdisk contains *Aegis Animator*, a brilliant metamorphic animation package which lets you create a stunning world of melding objects. Peter Lee explains how....

AEGIS ANIMATOR

QUICKSTART GUIDE TO LOADING DISK 70

WRITE PROTECT YOUR DISK! Switch the tab to the open position to write protect your original coverdisk.

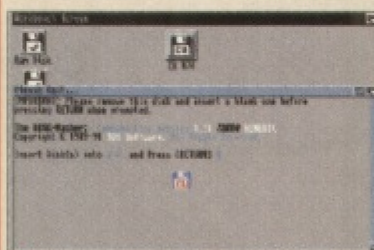
The three programs on disk 70 have been archived in order to fit them all on. To use them you must first unarchive them onto three separate disks. The disks need not be formatted. Follow these steps to create your three new disks.

1 Insert disk 70 and wait for it to boot.

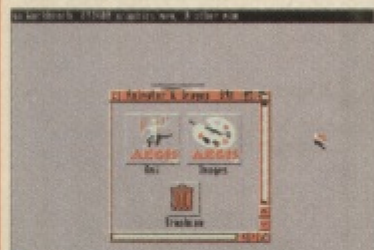
2 When the CU70 icon appears, double click it with the mouse.



3 You'll see three icons appear in the disk window. Double click on the one marked Animator, and follow the on screen instructions.



4 When everything has stopped and there are no more requesters, repeat the process from step three, double clicking on the next icon this time. Do this a third time to complete the hat-trick.



5 To load the Spectracolor and Animator/Images disks, reset the Amiga, double click on the disk icon, then double click the program icon.

Aegis Animator - cover disk tutorial

DISK VIRUSES

We try to ensure that viruses do not get on your disks. However, we can accept no responsibility for damage incurred by viruses which have escaped our attention.

Aegis Animator brings quick and easy pro animation effects to your Amiga. It lets you create images, then have them animate over a sequence – either by simply moving them about the screen, or better still, changing them fluidly into other images. You don't have to painstakingly draw an object, then update it as it moves. Instead you create objects made out of shapes – lines, circles and polygons for example – and tell the program how you want them to look after a certain period of time. The program works everything else out.

Aegis Animator measures time in Tweens. After you make changes to an object, you move on to another Tween – and the beauty is that you can edit as many objects as you like in a Tween, and make things happen quickly or slowly depending on how long you give *Animator* to complete the current Tween. A Tween is basically a short period of animation time in which objects can be made to move or change shape or colour.

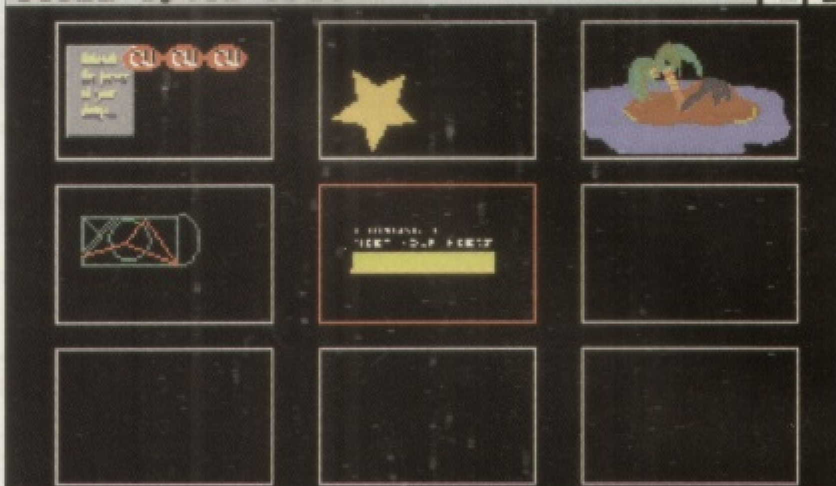
Animations are made up of any number of Tweens, depending on Chip memory. And don't think that all you can draw are boring squares or circles. You can draw any object using the tools provided – faces, trees , logos – then let your imagination rip. It's a bit like dot-to-dot drawing – you have to click and create points as you assemble complex objects – but it's really easy once you get the knack. If you make a mistake, you can Undo an action, or use the Storyboard feature to cut and paste Tweens into different animations. You can also load in background images or brushes you've painted in other art packages (*DPaint*, for example). As long as they conform to the IFF standard (almost all will) you're OK, provided you don't use up too much memory with them. So as well as the benefits of fast metamorphic animation, you can integrate other images into *Animator*.

NOTE – You can't use an Anim brush, but you can give a static bitmap brush a path, and move it around the screen. You can also use *Animator*'s own polygons to cover or reveal bitmaps for special effects.

STARTING OUT

When you begin the program, you have a pull-down menu-bar along the top, and a fast menu on screen bursting with icons. Check out the tool definitions to become familiar with their use. The fast menu duplicates functions found in the pull-downs, so you can use which ever you're most comfortable with.

As you become more familiar with the program, you'll find the fast menu saves a lot of time. The opening blank screen is the opening Tween of your animation, and you can either launch into an idea here, or load in an already saved script from the Project/Storage menu requester.



The storyboard is like film editor. The nine slots can each hold an animation.

SIMPLE OBJECTS

Animator has a range of simple drawing tools, from which you can create the most complex images. In-built polygons are easily moved or resized. Objects such as stars and circles can be rotated around X or Y axis, and can be made to disappear 'into' the screen, or expand outwards to fill the whole display area.

To select an object or objects for moving or editing, just select a tool from the Fast menu, and click on the chosen object(s), which will become ghosted. Follow the instructions on the main screen menu bar, and if you forget what a tool does, simply click on the Fast Menu question mark, then click on the tool for helpful advice. To finish drawing an object, click the right mouse button. Some movement tools allow you to place a centre point, around which movement will take place. This allows you to offset the point of rotation.

STORYBOARD

This section of the program is like a film editor. The nine slots can each hold an animation, and you can enter any slot to cut out unwanted Tweens, or even cut and paste animations into each other. You access the Storyboard from either the Project menu, or click on the block of nine squares on the fast menu. If you have an animation currently in memory, you will see a miniature version of the screen image in slot one.

As soon as you enter Storyboard, the current Tween is shown in miniature in the highlighted active window, and your cursor changes into the word 'into'. Now by clicking into any slot, you 'enter' that sequence to work on it. You can also set global time controls from here, as well as set sequences to wire-frame or filled to help you edit Tweens.

Under the Storyboard Edit menu are the real tools which make this area so useful. *Splice*, *Cut* and *Delete* commands let you remove and insert Tween sequences into multiple animations. (WARNING – the Cut function is destructive. It removes Tweens from the source, and writes over any Tweens in the slot you paste down into. If you want to copy Tweens, use Splice. Cut is really only useful for isolating portions of an animation in an empty slot for quick splicing back into other slots).

SPLICE -This picks up an animation in one window and attaches it to the END of an animation in another window. If the slot is empty, the animation is simply copied. To make a Splice, choose Splice from the Edit menu.

IF YOUR DISK WON'T LOAD

If your coverdisk doesn't seem to work as it should, then follow this simple guideline. Firstly, remove all unnecessary peripherals, such as printers, modems, etc. Follow the instructions on these pages to the letter, and if after that you find that the disk still doesn't work, call the PC Wise helpline on 0685 350505 between 1030 and 1230 Monday to Friday. If they advise you that the disk is faulty, then pop it in a envelope with a covering letter explaining what the problem is to :
CU DISK RETURNS, PC WISE, DOWLAIS TOP BUSINESS PARK, MERTHYR TYDFIL, MID GLAMORGAN< CF46 2YY.
Please include 28p per disk to cover postage and packing (55p for overseas readers). Your disk will be tested and a new, working one dispatched to you as soon as possible. Please note that neither we nor PC Wise accept responsibility for any disk damaged due to negligence on the part of the user.

The cursor will change to a film splicer icon.

Next, place the cursor on the animation you want to pick up, and click the left mouse button. Finally place the cursor in the window where you want the animation to be added. Press the left button again.

CUT: Used in the same way as Splice with the warning that it removes the cut portion from the original animation, and replaces anything which exists in a slot when you paste it in. You can select which Tween to begin a cut from by accessing the Time window before entering the storyboard, and selecting the relevant Tween.

OTE: If you have any bitmap backgrounds or windows loaded in an animation, these cannot be shown in Storyboard mode. Masks and Windows can have their outline ghosted, but that's all. If you enter a Storyboard slot and don't immediately see your bitmaps, don't panic – provided you haven't edited out the Tween which loads them, all you need do is play the sequence from the start for Animator to recall what bitmap goes where.



Even though *Animator* isn't a bitmap drawing program, you can still create subtle effects using just the built-in polygon and line tools.

MEMORY PANIC

In their wisdom, the programmers have told *Animator* to panic if memory gets short. You will be presented with a message 'Memory Panic – System going down' if this happens. You get the chance to save your Storyboard files to disk. Each file will be called ani-panic X.script where X is the number 1 through the number of animation windows you had on the Storyboard. To begin again, reload *Animator*, and using the Storage command load the scripts that you wish to continue working on.

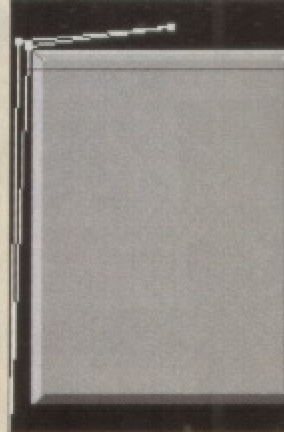
BITMAPS: A bitmap is an Amiga image in the IFF format – the kind produced by *DPaint* and 99.9% of all drawing programs. If you can load it into *DPaint* as a brush or picture, it'll work. However, Aegis have a different convention for naming their bitmap images. Screen images have to have the extension .pic, and brushes have to have a name ending in .win. So if you draw a picture called Alien in *DPaint*, save it as Alien.pic, otherwise you will not see it listed in the Storage menu. The same applies for brushes you cut out and save in *DPaint* – instead of calling it Nostromo brush, call it Nostromo.win.

PICTURES: A backdrop has to be in low res mode, and can be loaded at any time during a script; at the particular Tween you want to load in a picture (or window for that matter), just call up the Storage requester and load it in. You can load in any number of back drops over a series of Tweens, as they erase each other. Backdrops are visible until you either cover them with a polygon, or until you issue a Wipe command from the Colour requester.

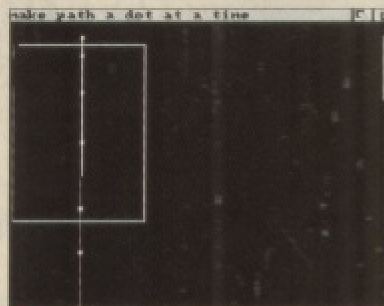
WINDOWS: You can use brushes saved from the likes of *DPaint* (with a .win extension of course) in *Animator*, but their movement is restricted to sideways, in, out and path. You can even save an image from the current screen as a Window by selecting Project/Storage and specifying WIN from the middle column, then typing in a filename (win will be added automatically here), and clicking on Save. By drawing out a rectangle on screen, you can now save an area as a Window.

Even though *Animator* isn't a bitmap drawing program, you can still create quite subtle effects using just the built-in polygon and line tools. Added to which are the benefits of integrating actual bitmaps from drawing programs such as *Deluxe Paint*. »

HOW TO CREATE POLYGONS



1 This sequence mixes Animator polygons with *DPaint* bitmap brushes, saved as name.win so *Animator* knows they're Windows. Here, in Tween two I've already loaded in Plaque.win, a bas-relief grey bitmap brush. In Tween one, using a black polygon created with the Filled Polygon tool, I drew a rectangle to cover the image of the plaque so the whole screen was black. To reveal the plaque I used the Morph loop to move the black polygon out of the way in Tween two. The ghosted image on the top left of the plaque shows how the black polygon was moved.



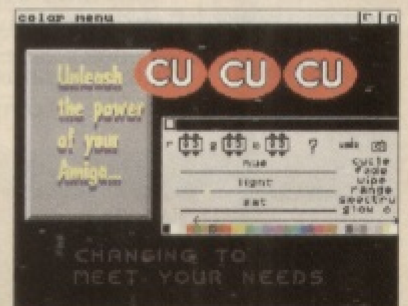
2 In Ghost mode I drew a path for some text to move slowly up screen (the dotted line is the path I've drawn).



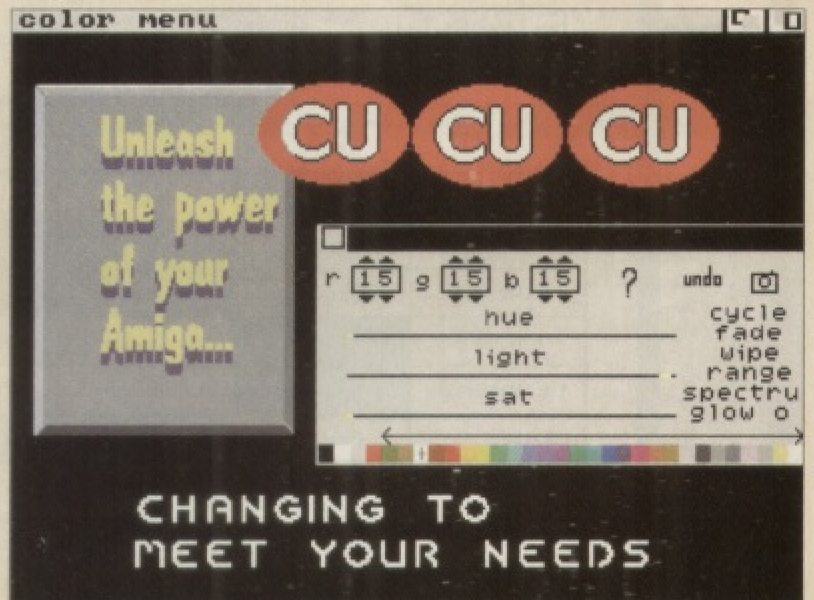
3 At the end of the Tween, the text has risen up in position on the plaque. Now on to Tween 4...



4 The red CU logo is also a *DPaint* brush, and I slid that in from the right using the Path tool again. I then duplicated the logo twice using the Clone tool (looks like 4 pyramids), and using the Move Sideways tool (looks a bit like a grabbing hand) slid them across into position.

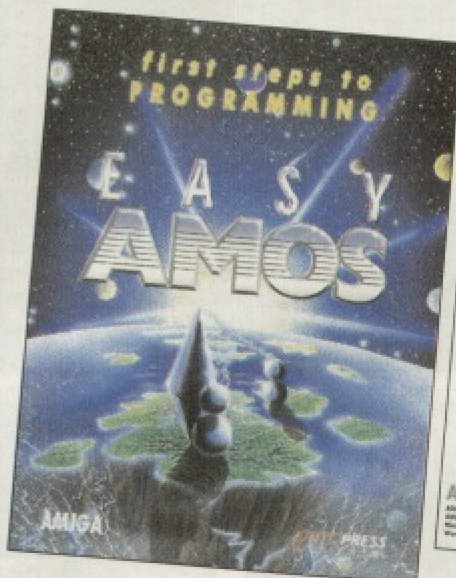


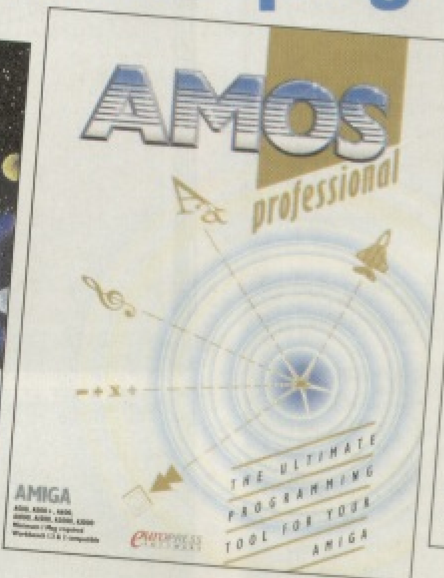
5 Next another text brush from *DPaint* was loaded, and using the colour requester I turned it 'invisible' by making its colour black. After loading in the brush in a Tween and changing its colour, I changed the Tween speed to the highest setting so that the brush would not be visible before I changed its colour.



6 All that remained was to bring the colour slowly up to white, so the new text brush fades in. You can achieve this effect over a series of three or four tweens, using the Colour Menu to gradually increase your brush's colour from black, through grey to white. It also works in reverse to allow you to make things either strobe, or fade to black.

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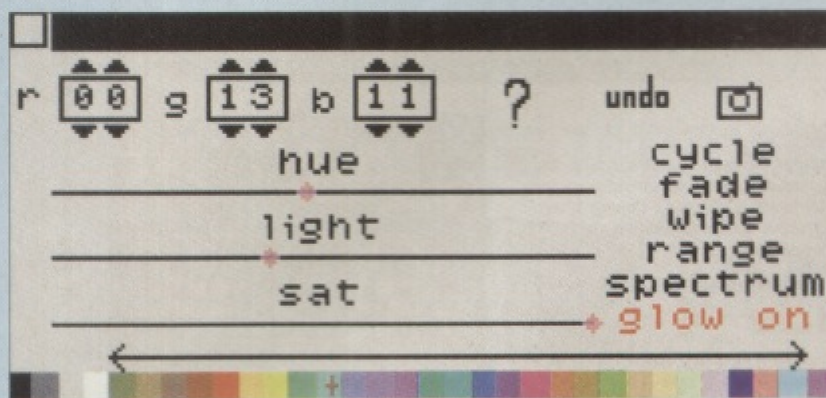
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AMOS 3D	Compatible			Incompatible	Compatible	
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The colour menu's animator's palette allows access to 32 colours.

The speed and fluidity of polygon morphing combined with highly-detailed images creates the best of both worlds for animators.

TIME MENU

Although an animation has a Global Speed setting, within an animation, each Tween can have its own speed. So for instance if you want something to happen slowly and elegantly, you can slow down the action. Likewise if you have made some edits to correct a mistake in a drawing, you can have them happen so quickly in a Tween that they are invisible.

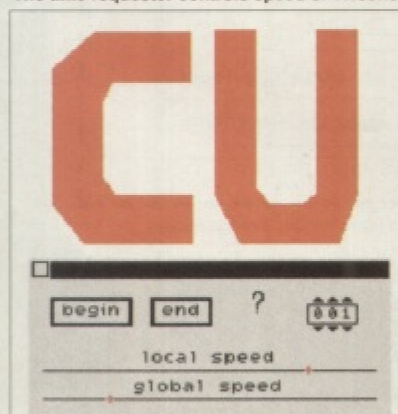
Speed is controlled from the Time requester, shown at the bottom of this column. In the top-right of the panel you can set the current Tween number by clicking on the direction arrows (it's currently Tween 001). By adjusting the sliders on the Local and Global speed bars you determine the rate at which a Tween, or entire animation, is played back. Begin and End take you to the start or finish of the script. The question mark gives help on the requester's options.

COLOUR MENU

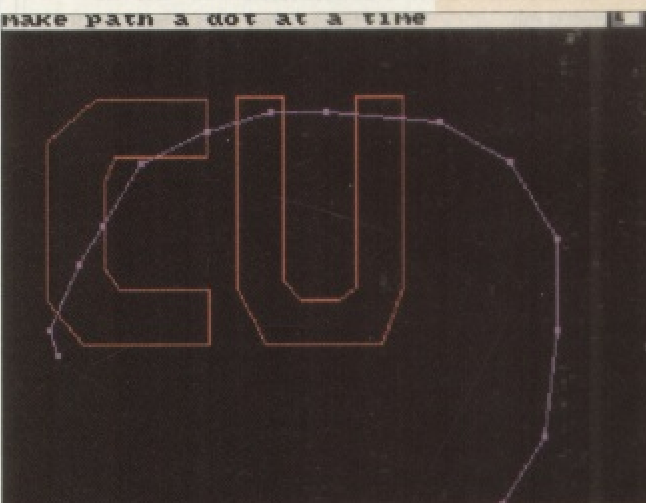
Animator's palette allows access to any shade of colour the Amiga is capable of displaying. 32 colours can be displayed on screen, and you edit these either by altering the Red, Green or Blue numeric values, or adjusting the slider controls governing hue, light (white/black component) or saturation intensity. All of the commands except Wipe use a range selector positioned just above the colour bar – the range can be shortened or extended by clicking on a direction arrow and moving left or right. Cycle will cycle through a range; Fade will fade a range of colours to the colour you select from the linear colour palette at the bottom of the requester.

Using this it's possible to make a colour gradually appear or disappear. Wipe clears a backdrop bitmap from the screen at the current Tween, and frees memory. Range produces a blend of colours between the start and end colours defined by the range arrows. Spectrum works in a similar way, but instead of a smooth transition between the colours, a rainbow effect is achieved. NOTE – palettes can be saved from the Storage menu.

The time requester controls speed of Tweens.



You can rotate text using the Make Path tool.



This is vital for maintaining the correct colour in a sequence using bitmaps, as Animator defaults to its own palette. If you load in a bitmap whose colour looks odd, you will have to edit the colours it contains via this Colour menu. A new palette can be loaded at any time during a sequence at any Tween.

TIP – to use the default Animator palette in *DPaint*, save either a .Pic or Win image as a reference, and load it into your paint program to use its palette definition.

MAKING A PATH

Using the Make Path tool (looks like an uncoiled spring) you select a polygon or polygons and simply draw out the route you want the object to take during the course of the Tween. The path can be as complex as you like – each time you click the left mouse button you register a point where the selected object(s) will move.

MENU COMMAND SUMMARY

PROJECT
Undo - Returns the screen to the way it was before the last command was issued
Fast Menu - Hides or displays the Fast Menu window
New Script - Erases the current script
Storage - Displays the storage requester - load and save your work from here.
Storyboard - Transfers program control to the storyboard - the main editing area
Color - Displays the colour requester; select and alter colours here
Time - Displays the Time requester and controls how long a Tween will take to execute
Status - Displays in the menu bar the remaining available memory
Exit - Quits the Animator program

CREATE
Line - Creates an object which is a single line
Polygon:
Filled - Creates a solid free form shape; left button creates a point, right to end
Outline - Creates an outline free form shape
Circle:
Filled - Creates a solid circle made of 16 points: click the left button and drag for size
Outline - Creates an outline circle of 16 points
Star:
Filled - Creates a solid 5-point star Outline - Creates an outline 5-point star
Block - Creates a 4-sided rastor object - identical to a Mask
Clone - Creates an exact copy of an object or objects
Destroy - Removes an object's present and future; in effect, delete it from the current tween

MOVE
Move:
Sideways - Drags the current selection about the screen
In - Moves the current selection inward through successive planes. The further the mouse is moved, the further the selection will travel. The Fast Menu selection of this command has the added feature of Perspective on or off. The default is on, which means the sel ected objects will get smaller as you move them in because they are moving away from you. With perspective turned off, the selected objects move inward, but do not change size.
Out - This is the same as the in command, except the selected object moves outward.
Rotate:
In Plane - Moves the current selection about an indicated centre without changing the plane the selection inhabits.
Around X - Moves the current selection in the X plane around an indicated horizontal centre.
Around Y - Moves the current selection in the Y plane around an indicated vertical centre.
Size - Shrinks or enlarges the current selection toward an indicated centre.
Path - Plots a path for the current selection to follow
Change color - Changes the colour of the current selection to the current colour at the beginning of the Tween
Change Type - Changes the type of the current selection. Types are filled (solid), outline, and line.
These are the basic shapes use d by Animator.
Morph:
Loop - Changes the shape/position of the current selection by moving the points that make up the objects. Click and drag to edit points
Hook - Changes the shape or position of the current selection by moving existing points OR adding and deleting the points which make up the object.

SELECT
Point - Makes the current selection active on one point at a times.
Points - Makes the current selection active on multiple points at the same time. The points can be located on different objects.
Segment - Makes the current selection active on a portion of a single object.
Polygon - Makes the current selection any one object.
Polygons - Makes the current selection any number of multiple objects.
All - Selects all objects currently in the animation.

TIME
Next Tween - Advances the current position to the next tween. If there are no more tweens it creates one and makes it the current tween.
Replay Tween - Plays back the animation in the current tween.
Replay All - Plays back the entire animation.
Play Loop - Plays the animation and loops back to the beginning, to continue until interrupted
Ghost Mode - Displays all objects in wire graphics. Useful for getting at objects behind others, or for seeing just what's going on.
See Tween:
At end - When in edit mode, all tweens will be displayed at the end (objects will appear where they will lay when the tween completes).
At begin - Similar to at end, except the tween will display at its beginning

COLOUR
This is the current colour palette. The current colour is highlighted.

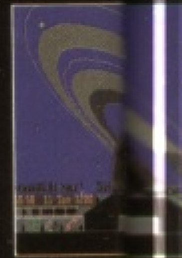
STORYBOARD
Project:
Go into - Enters the edit mode in the selected window.
Speed - Displays the time requester
About Ani - Who did what.
Status - Displays in the menu bar remaining available memory.
Exit - Leaves the program.
Edit:
Splice - Copies the current tween and all future tweens into another window.
Cut - Cuts the current tween and all future tweens into another window.
Delete - Deletes all animation from the indicated window.
Activate - Works the same as play loop in the indicated window.

AEGIS IMAGES There's another program on the *Animator* disk – *Aegis Images* is a paint package in the mould of *Deluxe Paint*, which you can use with *Aegis Animator*. Pictures created with *Images* are totally compatible with *Animator*.

Look ahead. Look far, far ahead to the year 3200 and imagine a basic space craft as your only worthwhile possession. If you are to fulfil your burning ambition to be the best, you must defeat the best by coupling your inherited flying skills with a vast knowledge of the Universe. Outwit the pirates by beating them at their own game.

Be merciless, be wise, beware.


PC Screen shot


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COVERDISK 70

HAM mode animations, a full artillery of drawing tools and some unbelievable special effects – these and more are yours in our coverdisk program *Spectracolor*. Here's how you can make your artistic dreams come to life...

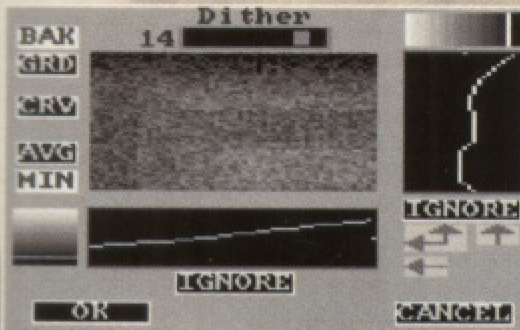
SPECTRACOLOR

Spectracolor is a dedicated Hold and Modify art and animation package. That means you can paint with all the Amiga's 4096 colours on screen at once, and it's this vast palette which lets you create marvellous special effects full of subtleties like translucency, luminance and reflections. The program contains over 50 drawing and painting tools. But with the marvellous keyboard shortcuts shown in pull-down menus (many are *DPaint*-like) and our quick guide, you should be able to get to grips with the program.

<To load this disk see box out on page 20.>

When you start the program you are shown the Fast Menu containing the drawing icons, and you begin in Freehand mode. There are eight in-built pens to choose from, and these are shown on the far left of the tools menu. Here's a breakdown of the options available...

COLOURS: Below the tools menu is a display of 64 colours, but you can choose to paint any



In the blends window you can set the dominance of background colours.

colour the Amiga is capable of displaying by clicking on the Up and Down arrows on the very right edge of the menu bar (Or as a shortcut, hit the RETURN key). This opens up the extended colour palette, which includes a colour manager to allow you to define your own colour, and also to create colour spreads from one colour to another. To select a new colour, click anywhere on one of the three range boxes; This now becomes your foreground colour, and you will see an enlargement of the area around your choice in the zoom box, which is bang in the middle of the Palette menu. This allows you to be even more accurate in choosing an exact colour.

SPREADS: If you want to create a spread of colours – say dark red to bright pink – here's how to do it: Choose a slot in the 64-colour display under the tools menu where you want your spread to start, and pick the shade of red you want from one of the three colour ranges by clicking the mouse pointer on a colour. Do the same with the final colour - select a slot for it some way from the first colour in the 64-colour palette, then choose it from the ranges on offer. Now click on either the words RGB or HSV, depending on what kind of range you want, and click on the colour slot holding your first colour, and a spread will be created.

MAGNIFY: After clicking on the magnify tool icon, you move back to your screen, and click on the area you want to magnify. A re-sizeable window opens up for detailed pixel editing. You can scroll around the area being enlarged by clicking on the direction arrows in this window, and control the power of magnification by clicking on the + and - signs. MAX gives maximum magnification, and Min the least enlargement (2x); Mid returns you to the default setting. Clicking on the letter 'S' shows the area under magnification on your image screen.

BLENDS: The blend window allows you to set the dominance of background colours over your brush or filled area colour. It does this by letting you define horizontal and vertical profiles – a 3D shape, with low areas representing maximum dominance. The highest possible points on each graph, which you can draw as a freehand line, allow most of your brush to be painted. Experimentation with this little gadget will produce some truly amazing results!

ANIMATION

On the flip-side of the drawing menu is the animation control panel. Click on the Anim button to access it (or press SHIFT/RETURN). The controls are laid out like a video recorder for playback and editing your HAM animations. While most buttons are self-explanatory, you will find the Play Inquiry feature really handy. By clicking on it you're presented with a requester which allows you to set various playback values. You can edit the From and To pages, specify ping-pong playback, and set the delay rate to either speed up or slow down an animation.

NOTE - you can set a delay rate on a frame by frame basis from the Project/Alternate submenu, so for instance an end frame can be on screen for a lengthy period.

Brush animations are one of Spectracolor's main features and to the right of the animation frame controls are four tools which help you to create these animations; these become active if you load in an Anim file or define a brush animation. The tool with a capital 'F' in it lets you define the starting position of the brush you intend animating. Your cursor changes to an 'F' and you can position it by clicking the left mouse button. The cursor now changes to a letter 'L', and by clicking on screen again, you tell *Spectracolor* where the brush will end up.

After defining start and end brush positions you can render an animation by clicking on the Rec button. A requester pops up asking for the number of frames over which to move the brush. You can also Preview the sequence from here, tell the program to copy your original screen as a background to subsequent frames, and finally execute the animation by Rendering. You can also load in Anim brushes and animate those over a sequence.

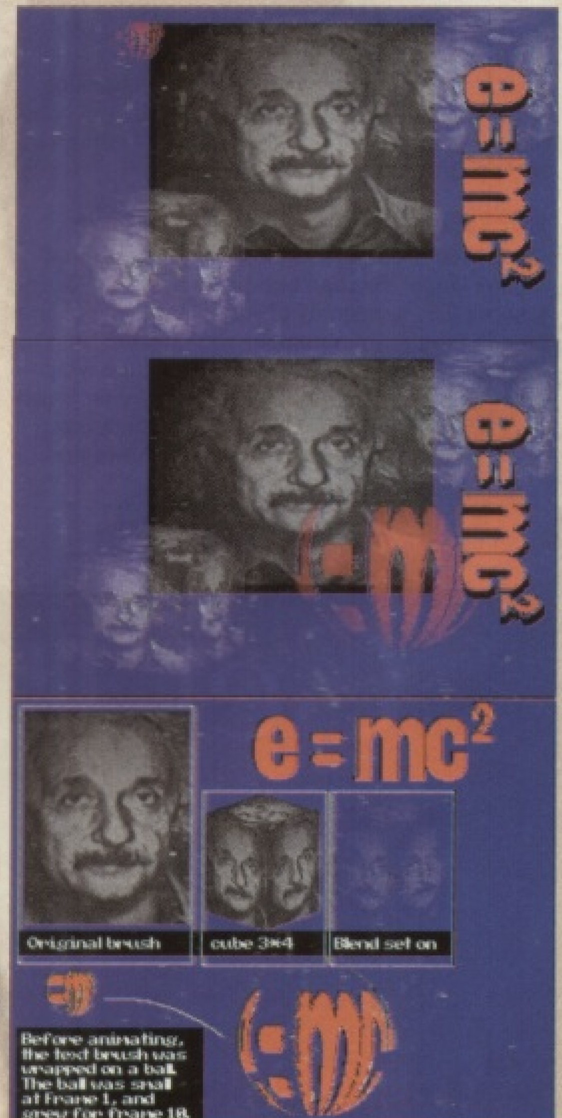


This picture of Elvira demonstrates the use of transparent text using *Spectracolour's* luminosity feature.

REMEMBER: If you have any image settings active, such as blend or luminance, these will be used as *Spectracolor* draws your animation brush. Next tool after the Rec button is the Path definition; default path is straight, and you can draw a linear path for your brush to follow. Clicking on the tool toggles the freehand or Lasso Path option, which allows you to draw freely on screen a path which your brush will follow. If you preview an animation like this, you'll see the path you created on screen.

CLEVER STUFF

These three frames from a 10-frame sequence demonstrate the use of animated wraps. The third frame is a quick explanation. The static wrap of



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» Einstein was created with a brush image of the great physicist wrapped 3*4 (prints three images around an imaginary cube face). Using a high luminescence factor, with backlight, and with Blend active the brush was ghosted down onto the main screen. Here's how the sphere, containing the text brush e=mc_2, was made to grow from the top left to bottom right automatically. The brush was cut, and Wrap/Ball activated; then a click on the Animation menu's F tool allowed me to define the first frame position of the brush. And as Wrap/Ball was active, I defined its size too. Once done, the cursor changed to the letter L to allow positioning on the last frame. Again the Wrap/Ball was still active, so I drew out a larger ball for the program to paint the text brush on. After pressing Rec on the animation toolbox, *Spectracolor* worked out the size difference, and drew the wrapped brush where I wanted it.

Some of the brush manipulation tools actually work over the length of an animation. Take the wraps for instance; if you wanted a brush wrapped on a sphere to appear to move towards the viewer over 10 frames, here's what to do.

1 Cut out or load your chosen brush. Select the Brush/Wrap/Ball option from the pull-down menu (or press ALT/B). Click on the First Frame definition tool on the animation menu and position and size the ball on frame one.

2 Once the mouse pointer changes to L for last frame, re-size the ball to your ending size.

3 Click on the Rec button, and watch your ball grow over the sequence, with your brush wrapped beautifully around it.

Similar multi-frame changes are available on the following brush functions: Resize Free, Rotate Free, Tube Wrap, Cone, Ball, Ellipse, Free Wrap, Cube 3/4 and 3*4, Contour, Bend, Stretch, Twist, Tilt and Blend Mode.

REMEMBER – Your chosen wrap or brush mode must be active BEFORE you define First and Last positions. To abort animation drawing, press the Escape key. Remember, too, that some brush manipulation requires you to press the SPACEBAR to confirm your edit.

BRUSH MANIPULATION

One of the great joys of the program is its brush manipulation. You can bend it, shape it any way you like it. The majority of wraps are self explanatory, but there are a number you may not be familiar with. There are two kinds of cube wrap – 3/4 will give you a perspective view of your brush as if it were used as wrapping paper on a box. The cue wrap *3 on the other hand shows the same view of the box, which you can rotate, but which places the brush image independently on the three visible sides. 'Free Wrap' presents you with a definition area the same height as your brush, in which you can freely define (i.e. draw) the shape of your vertical edges. As you draw in one half of the ghosted rectangle, your movement is copied symmetrically to the other – so you can draw a candlestick shape just by drawing one half of the object. To confirm the shape, press the SPACE BAR and *Spectracolor* will draw your new brush.

TIP - To avoid symmetry, draw with the RIGHT mouse button pressed. Contour wrap is something unique to the program. When you select this option, you next have to define an area of your image (not necessarily where the brush came from) as the basis for the contour calculation. *Spectracolor* bases this on the brightness of pixels in that area, and translates these into a 3D graph around which your current brush is wrapped. Once you've told the program which area to examine for 'highs and 'lows' of brightness, you are presented with a wire-frame drawing of the contour, and you can rotate this by moving the mouse. Pressing the SPACEBAR will draw your brush onto this shape.

TIP - to abort the operation, press ESCAPE. Brushes can also be Tilted in 3D space, Stretched or Twisted; by manipulating the ghosted brush on screen, and editing points you can fine-tune these operations. Some operations need you to press the SPACEBAR after brush manipulation, to confirm your edits.

TIPS 'N' TACTICS

Current foreground and background colours are shown at the extreme left of the main toolbox. To change foreground colour, click the mouse in the current foreground colour box and either pick an on-screen colour, or select one from the Extended Palette. Use the right mouse button in a similar way for the background colour.

Working with 4096 colours gives *Spectracolor* much control over on-screen images. The mode menu commands have the following effects:

Foreground Mode Normal - paint is applied solidly onto the screen in the normal drawing manner.

BLEND - the most complex of the drawing modes, this uses the colour of your brush or pen to combine with whatever's underneath. In this way delicate shades and shapes can be added at a user-definable level (from the Blend set menu option).

LIGHTEN - combines the current brush colour with the underlying colour, increasing the RGB values to create a new colour.

DARKEN - darkens the existing colour by subtracting the RGB values of your brush colour.

MAXIMUM - this works out the difference between the EGB values of your brush and the existing colours. Where these values are different, the higher value is displayed. MINIMUM - same as Maximum, except lower values take precedence.

USE H - Gives an existing image the hue of your brush without altering contrast or saturation.

USE H & S - Combines the hue and saturation values of your brush with the image.

AND, OR and XOR - binary-level calculations give interesting, if not too useful painting effects.

To use a brush as the source of a fill, select Source Pattern (SHIFT/F5) with a brush in memory. Any fill tools will now use this brush as a pattern; if you have lassoed a brush shape, the pattern fill will fit it into a rectangle bounded by its maximum width and height.

If you use the Pantograph drawing mode (SHIFT/F6), you can copy an area of screen to another area by drawing with a crosshair brush. Any Mode you have activated will affect the copy of the image.

Stencils are defined by shape, not colour. You can lasso draw the area you need to protect.

TIP - as with other freehand definitions (lasso cuts, freehand animation paths etc), you can edit the line bounding your stencil area if, after selecting a freehand operations press the Ctrl key and keep it held as you define the area. To accept an edit, press the Spacebar.

To grab an entire screen as a brush, press Ctrl/B

You can control animation playback speed with the mouse: while a sequence is playing hold down the right button and slide the mouse forward or backward.

GLOWING REPORTS

Brushes can also have a luminosity feature. That's right – they can glow, or let light shine through them. This works either for ordinary brushes, or ones wrapped onto surfaces – so, for instance, a brush wrapped onto a sphere can have a genuine hot-spot added via the Luminosity control. Luminosity (ALT/L) opens up a control window where the following can be set:

Intensity: The brightness of the light whose source you are setting.

Contrast: Sets the contrast between the light source and the shaded object. Default is 15; any less reduces the contrast.

Dither: Comparable to shooting a picture through a hazy gauze; it can soften and smooth an image.

Direction: Drag the point around the square to position the light source.

Back Light: Turning this feature on will make light appear to be behind a brush, with the effect that edges will be well defined, while the central portion will be darkened.

Fine Shade: Useful for additional levels of light on 3D object wraps, but can degrade the colour of digitised images; best for solid colours.

Full Scale: Only turn this off when using back lighting, as it prevents brightness from falling to its minimum level. CU

BUBBA 'N' STIX





Available on Amiga (1 meg only)

Our goofy hero and his friend - an intelligent alien stick - have crash landed on a weird planet after being captured by an alien spacecraft. In order to get back to Earth, Bubba must use his stick in a variety of different ways to solve puzzles, overcome adversaries and foil the comedic attempts of his kidnapper to recapture him in this horizontally scrolling puzzle.





Screen shots taken from Amiga version

CORE
DESIGN LIMITED

Core Design Limited, Tradewinds House, 69-71A Ashbourne Road, Derby DE22 3FS. Tel: (0332) 297797 Fax: (0332) 381511



COVERDISK 71

What a corking good games disk we have for you this month! Two smashing demos that'll appeal to arcade and strategy addicts. Remember, CU AMIGA's got more to offer.

YOUR QUICKSTART GUIDE TO LOADING DISK 71

Getting into the gaming action contained on this month's disk is simplicity itself. First, switch off your computer for at least 30 seconds. Don't even think of soft resetting it because a virus can still hang around after that and get onto the coverdisk. Before you pop your disk in don't forget to write protect it (i.e. push the little black tab so that you can see through the hole in the corner of the disk). Put your disk in the drive and switch on.



1. After a few seconds of loading time you'll see the menu screen. To load one of the two wondrous games press the appropriate function button (F1 or F2) or double click with the left mouse button on one of the icons.



2. The game of your choice is now loading. Be patient. *The Settlers*, in particular, takes a while to load.

3. You should now be faced with one of the demos. If so stop here and check out the game play instructions elsewhere on this page. If your game fails to appear try the above procedure once more before reading the panel entitled 'If your disk won't load' elsewhere on the coverdisk pages.

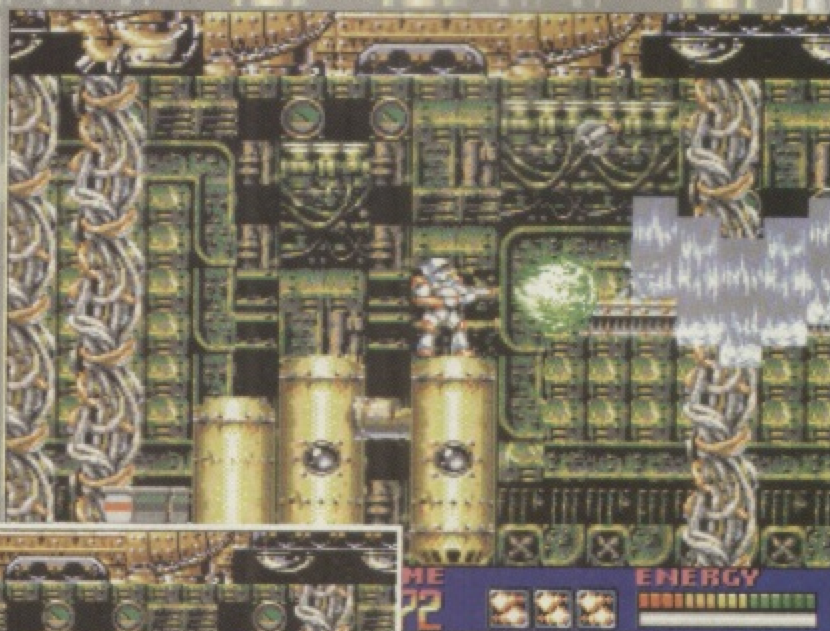
TURRICAN 3

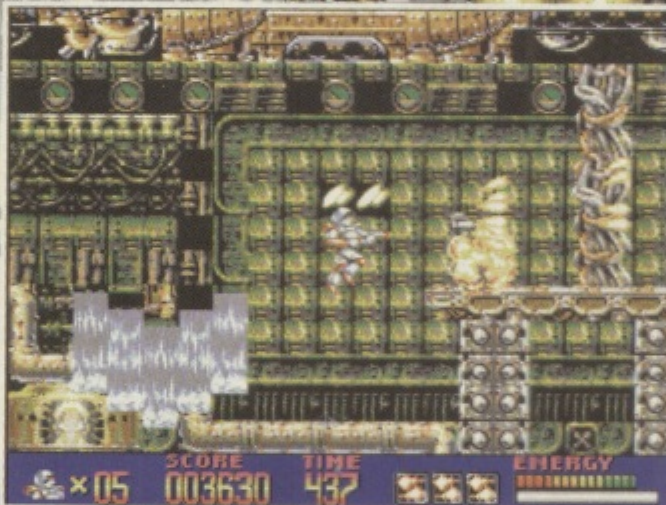
What can you say about this game that hasn't already been said? For any game to reach a third incarnation it must have something special about it. This game lives up to that idiom and then some. Taking all the best elements of a console blaster and adding the Amiga's own unique style, Factor 5 have come up with a gem.

In this taster from the second level, you play a lone warrior bent on the destruction of the alien hordes he's facing. Set in an underground kingdom your task is simple – walk through the level shooting everything you meet. From ceiling mounted cannons to huge mutant cyborgs they're all out to get you. Show no mercy and get blasting.

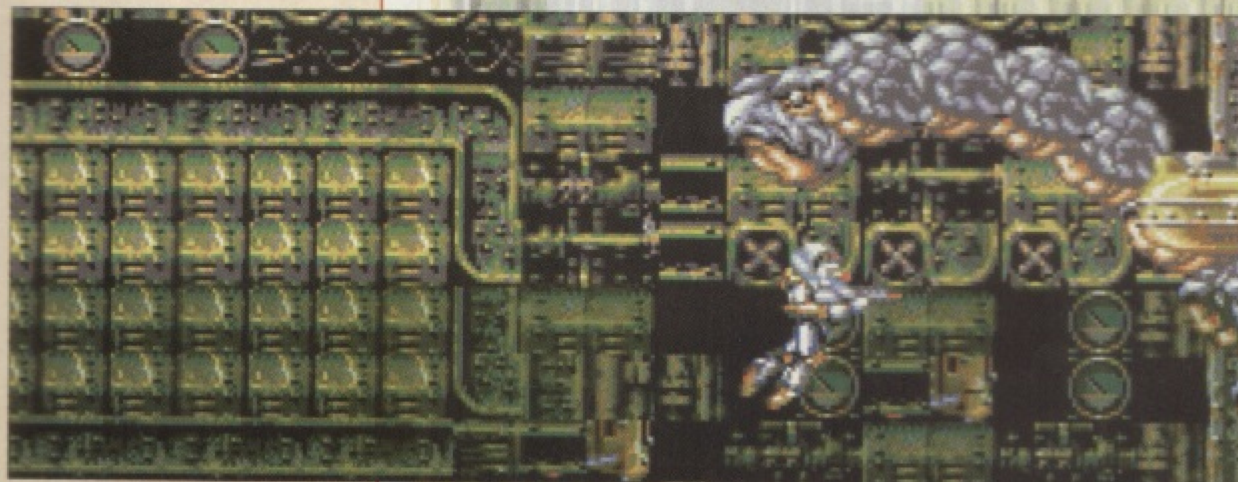
It shouldn't take long to get to grips with the controls. Plug a joystick into Port 2 and you're away. Pushing left or right will propel the warrior in that direction, push up and he'll jump, down and he'll crouch. Stab the firebutton to shoot the gun in the direction he's facing. Sometimes you'll come across a chasm that's just too wide to jump, at that point you'll need to use the warrior's rope weapon. To activate this hold the fire button down. You'll see his arm pop straight out. To aim it move the joystick left or right. Release the firebutton and the rope will shoot out. If you aimed well enough it should stick to the ceiling. You can now step into the void safely. Move the joystick left and right to swing. When you want the rope to come unstuck hold the firebutton down. The rope will start to flash. Pushing up now will release it. Ensure you're swinging towards a platform otherwise it'll be a long fall to your death.

There are a few cases full of goodies awaiting your attention on the level. Zap them and they burst open to reveal icons for weapon power ups. Just run into them to pick them up. One more weapon is at your disposal. Pressing the space bar will trigger a mega bomb which'll clear the screen of most baddies. Don't waste them though you've only got three. One final thing, don't crouch down and hold the fire button down at the same time. This would normally trigger another special weapon but has been disabled in this version – doing so may make the game crash. That's about it for now. You'll know when you've reached the end of the demo 'cos the screen will go black. Have fun!





Top: The laser is a useful weapon for clearing the way ahead. Watch out for the waterfalls though. *Left:* My favourite weapon is the multiple shot. More hits with less effort.



This ain't no swimming lesson you know. Avoid these dragons at all costs.

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EXCLUSIVE THE SETTLERS

BUILDING BLOCKS

Here are some of the main buildings you'll need in your little town (listed left to right).


Stone mason, Knight, Wood cutter, Forester, Fisherman, Miller, Boat builder.


Butcher, Blacksmith, Iron Foundry, Sawmill, Bakery, Gold Foundry.


Locksmith, Wheat farm, Warehouse, Pig farm, Watch tower, Watch castle.

Blue Byte's pseudo God game is a masterpiece of Amiga design. And we've secured a whole level for you. This is probably the longest demo ever to appear on any Amiga coverdisk. Start it and you'll still be playing days later. Our demo lets you create your own village and take a look at the fantastic animations the characters go through. If you want to know more about the game read Tony's review on page 16 of this month's Hot Games Supplement. Here's a brief guide to get you started.

The first screen to appear on loading is the intro. Click once with the left mouse button (LMB) and a system message will appear detailing your set up. Click again and the first options screen pops up. Here you can select how many players you want by clicking LMB on the icon to the right of the one titled 'Start'. There's the choice of one or two players or a self running demo. (Note: for two players you'll need two mice). Also, you can have up to three opponents. Three is the default, to cut them down click LMB on their portrait. Once the options are to your choosing click LMB on the Start icon.

That red line you can now see running across the screen indicates that the fractally generated landscape is being constructed. The beauty of this demo is that no two scenarios will be the same. The first thing to do once the world appears is to choose a suitable location for your village. Scroll around the map by holding RMB down and moving the mouse in the appropriate direction. What you're looking for is a piece of land that's not too steep and has a good selection of rocks and trees nearby. To get anywhere in *Settlers* you'll need raw materials to build the houses – and stone and wood are perfect for that. To site your Castle simply click once with LMB where you want it. If the land is suitable an octagonal shape will appear with a small castle shape at the centre. Click on the castle and it will be built immediately. If you scroll around now you'll see a fence-like construction – this is the boundary of your kingdom. It can only be expanded if you build Knight Huts, near the border.

The next building on your list should be a Woodcutter's Hut. The procedure for constructing buildings is the same no matter what type. So, click once with LMB where you want the building to go. In this case it should be near to the trees. If the area's suitable a small figure of a hut will appear. Now, go to the build icon at the bottom left of the screen and click once on it. A panel will appear in the main window with a choice of buildings. The Woodcutter's Hut is the one with an axe outside it. Click LMB on that and a flag and building block will appear on the main screen. To get building you need to link the site to the castle. Click LMB on the flag then once more on the Build Icon. The flag will now be surrounded by small boxes with gradient symbols. Green means flattish land, red steeper. To begin the path click LMB on one of them (try to take the flattest route it's easier for your men to walk on). Repeat this until you've linked the site's flag to the Castle's. A worker will leave the Castle and head for the site. Repeat this procedure for a Stone Mason's hut and a Saw Mill.

It's up to you to expand and build how you wish now. There's loads of dwellings to choose from – far too many to detail here. If you want to get an idea what a building does take a look at the other computer controlled villages they'll generally be much more advanced than yours.

There's no real end to our demo, the idea is to give you a feeling for what the complete game is like. Build in peace! CU

MAIN ICONS

Across the base of the main screen you'll find all the major game icons. They help you build and destroy houses, check out production schedules and assign people to certain tasks.


BUILD – Either construct a house or plant a flag. Click on this to select building type.


BURN DOWN/DIG UP ROAD – To get rid of a dwelling just click once on this icon then hold both mouse buttons down. The property will go up in flames. If you've clicked on a path this will also dig it up.


MAP – Click on this to bring up a map of the world. It may look big, but don't forget the map wraps around. Click on the right hand icon in the map window and you'll get a grid overlay. One single parallelogram indicates the actual map area.


STATS – Click on this to bring up a graph window. Here you can see how various types of production are coming along.


OPTIONS – Apart from affecting general options this allows you to designate exactly how many knights you recruit and where they will be located.

WORLD GUIDE

Here's a bird's eye view of the land of The Settlers. Watch and learn.



This is your main castle. It's the first and only building that is constructed immediately. Remember all roads lead here eventually.

Larger buildings like this warehouse take longer to build. However, if you don't want to waste your resources a warehouse is essential.

When you start mining raw materials like coal and iron you'll need foundries to process them into complex products. Produce steel and you'll get better weapons. Gold will give you more refined products.

After a while you'll notice your supply of trees dwindling. This is because your woodcutter has chopped them all down! Build one of these forestry huts though and a little man will start to replant them.

It's a good idea to build houses next to the resources they'll exploit. A fish hut would be good here.

If you desire war with your neighbours it's easy to do. Click on an opposing knight hut (with both mouse buttons) and, if you have a hut close enough, an option screen will pop up. Select the number of knights you want to fight and off they'll go.

The arrows in the middle of this icon mean you can't build here. A hut or a flag means that's what you'd get.

ys not seems to go right.

GIN INTERACTIVE "ALIEN 3"
AN BRENNAN JOHN CARVER
HERO DA LEN SCAPP

Virgin

y sho g on Amiga

Lose is a four letter word.



MORTAL KOMBAT

VIRGIN INTERACTIVE ENTERTAINMENT PRESENTS A NORLEDGE/HICKMAN PRODUCTION A PROBE GAME
LEE THAL HUGH JUPPERCUT DANIELLE WOODYATT PETER BALL SCREENPLAY BY ANNE NIHILATE
DIRECTOR OF PHOTOGRAPHY D. CAPITATION EDITOR R. CADE-CONVERSION DIRECTOR PAUL MILES

AKKlaim

MIDWAY

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Virgin

Now showing on PC & Amiga

Virgin

CHRISTMAS Buyer's Guide



Yoo hoo hoo. 'Tis the season to be merry (almost!), and if you've all been good boys and girls, Santa might bring you a nice surprise, so we thought we'd get in the festive mood and take a look at some of the widgets and gadgets and goodies that might well be cluttering up your Christmas stocking. Read on...



SUPERPRO ZIPSTICK

Tough, durable and micro-switched, this top stick will serve you well for years. Both left- and right-handed players will be able to get to grips with it. There's an auto fire switch that'll help even the most digitally challenged players win through.

Contact: Sonmax. Tel: 0457 876705. Price: £14.99.



MOUSE ARENA

With judges now ruling that RSI doesn't exist, you'll need to be more careful than ever with your wrist. That's where the Mouse Arena comes into play. Simply rest your wrist on the padded rest when you use the mouse, and it will save you from strain and hand problems in later life.

Contact: Forminco Inc, 215Grand Pr, L'Acadie, Quebec, Canada JOJ 1HO. Tel: 0101514 444 9488. Price: $29.95.

FLIGHTGRIP 1

Fads come and go but joysticks always remain the same. Well, not quite. These mini handlebars are Quickshot's answer to the joypad. You operate the directional controls with your left thumb and fire with your right. Then you develop cramp in both hands. Fun for kids though.

Contact: Quickshot. Tel: 081 365 1993. Price: £9.99.



PROTECTOR LUX

The ultimate in home security? The ProTector Lux is a wall mountable motion detector that illuminates an area as soon as it senses the slightest change, and then lets out a piercing 95 decibel warning alarm. Not for the faint hearted, you'll need to get a power adapter to run it.

Contact: Celltell Ltd., P.O. Box 135, Basingstoke, Hamps RG25 2HZ. Tel: 0256 64324. Price: £44.99





2 INK REFILLS

Tired of forking out a fortune for bubblejet ink cartridges? Then why not try a little bit of reinking? It might sound messy, but the foolproof inking system used with these little concertina packs mean no spills and plenty of savings.

Contact: System Insight, 120 Wordsworth Court, Middlefield, Hatfield Herts AL10 OEF. Tel: 0707 395500. Price: Call for prices.



PRECISION MICRO TOOL SET

The mere thought of cracking open my Amiga's case brings me out in a cold sweat. But for those braver readers out there, this tool kit will be invaluable. Containing a pair of pliers, a cutter, various sizes of screwdriver, a magnifying glass and various other tools you're sure to find something for every occasion.

Contact: Maplins, P.O. Box 3, Rayleigh, Essex SS6 8LR. Tel: 0702 554161. Price: £11.95. Order Code: FK52G.



DIGITAL BAROMETER

In days of old, when knights were bold, and women weren't invented, men drilled holes in telegraph poles and stood there quite contented. They also used to predict the weather by wetting a finger and sticking it in the air. Fortunately, the age of technology has done away with all that. These days all you need is one of these digital barometers. What a fine idea.

Contact: Brainwaves Catalogue, Freepost SU316, Dept 5317, Hendon Road, Sunderland SR9 9AD. Tel: 091 514 4666. Code: Price: £119.95.



VERSALITE

A torch, magnet and head band all rolled into one! What an incredible gift. It's claimed to be the most powerful torch in the world – Go ahead punk! Shine my light! It even comes with a red light filter so you can attract the wrong kind of company.

Contact: Calliope Ltd., 3 Marfleet Close, Great Shelford, Cambs CB2 5LA. Tel: 0223 844375. Price: £18.95.



KONIX NAVIGATOR

As a hand-held stick it's the business. Although the knob itself is a little on the short side you soon get used to its movements. The trigger finger fire button will suit some players better than others.

Contact: Konix. Tel: 0495 350101. Price: £15.99.



PLANT ALARM

Probably the funniest thingummy I looked at for this guide. It's an alarm to tell you when you need to water your plants. Just stick it in the pot and it'll tweet out one of three tunes when the flower needs moisture. Great.

Contact: Contact: Celltell Ltd., P.O. Box 135, Basingstoke, Hamps RG25 2HZ. Tel: 0256 64324. Price: £7.99.



AMIGA GAME MAKER'S MANUAL

You know what they say, you can never know too much, which is why tutorial books sell so well. Stephen Hill's *Amiga Game Maker's Manual* has been a constant favourite among the AMOS world, and is well worth checking out. Packed with handy hints, it'll turn your code into a smoothly polished blaster.

Contact: Sigma Press, 1 South Oak Lane, Wilmslow, Chesire SK9 6AR. Tel: 0625 531035. Price: £12.95.



CD3 STORAGE SYSTEM

Here's a unique and interesting way to store your CD collection. The CD3 hides your discs away in a compact and convenient way, and then lets you select the one you want to play with a simple slider. It's like having the luxury of a Wurlitzer in your own home!

Contact: Brainwaves, Freepost SU316, Dept 5317, Hendon Road, Sunderland SR9 9AD. Price: £29.95.





MOUSE CATCH

This mouse house comes complete with a cleaning kit and can be adapted to fit most sizes of mice. Stick it on the side of your monitor using the adhesive pad supplied and you're mouse has a new home.

Contact: Euromax Electronics, Bessingby Industrial Estate, Bridlington, North Humberside Y016 4SJ. Tel: 0262 601006. Price: £6.99.

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REVOLVER

At work or at play... revolve either way! It's a naff quote but the idea's there. Place your cakes, Scrabble boards or TVs on the turntable for easy rotation. Sturdy enough to hold a standard TV or Hi-Fi unit it's also so light you can use it as a frisbee when you get bored.

Contact: Martin Broadley Instore Video, Unit 5, Belton Lane, Grantham, Lincs NG31 9HN. Price: £7.99.



DESKTOP VIDEO VOLUME ONE

Genlocking is a strange affair. Everyone knows how to do it, but few know how to do it really well. This Amiga World video aims to explain all the ideas behind desktop video, plus stacks of tips on how to make your genlock productions look more professional.

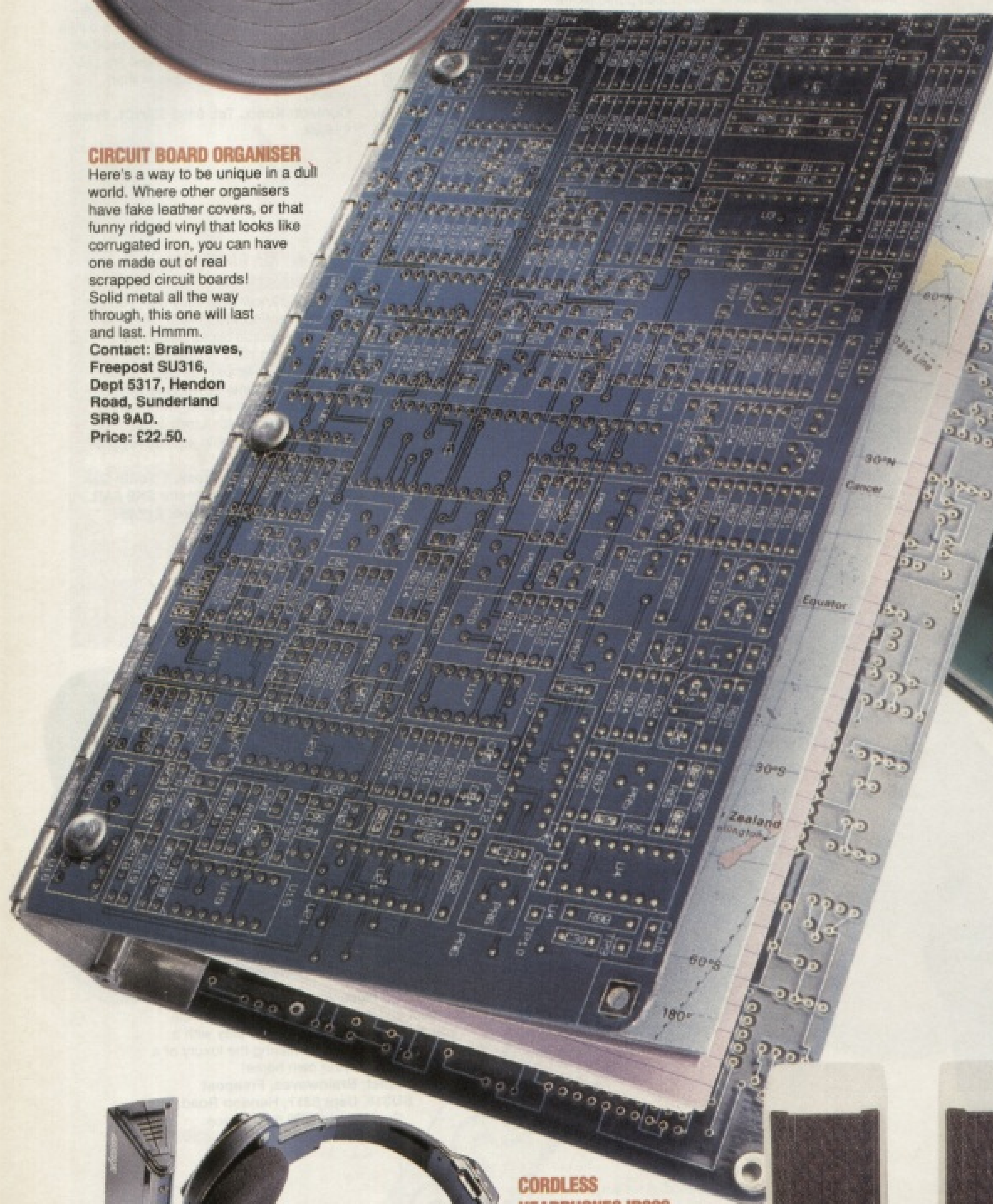
Contact: Burgess Video Group, Unit 6, Industrial Estate, Brecon, Powys, Wales LD3 8LA. Tel: 0874 611633. Price: £12.99



DISKFILE/30 MICRO

If you're the kind of person who is happy to leave large piles of disks hanging around the place, then turn the page. If, on the other hand, you're the kind of person who likes to keep their files safe and tidy, then this is for you. The Diskfile/30 holds up to 30 3.5" disks securely, and thanks to the ingenious locking device, only the owner of the key will be able to get in.

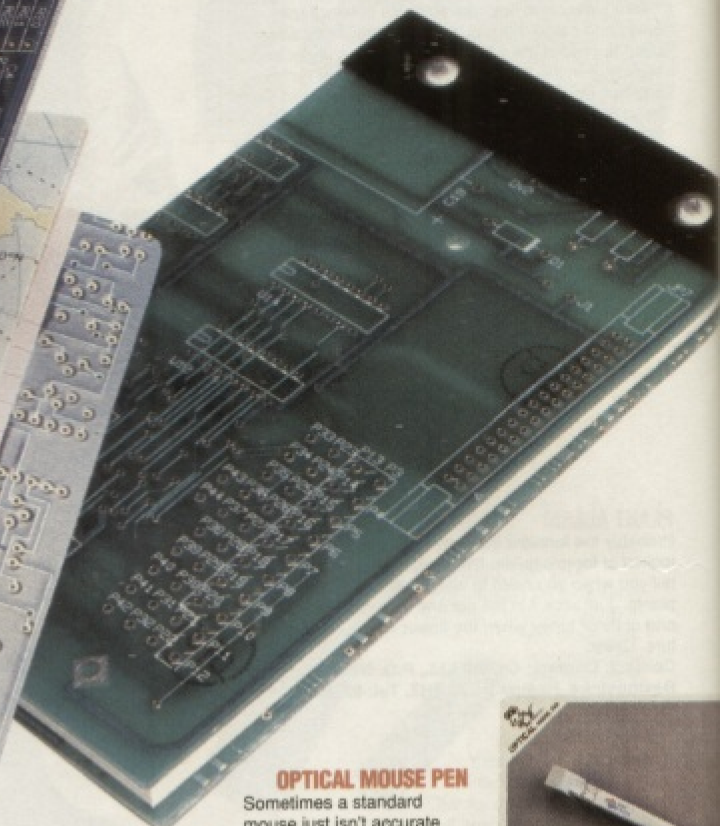
Contact: Euromax Electronics, Bessingby Industrial Estate, Bridlington, YO16 4SJ. Tel: 0262 601006. Price: £11.99.



CIRCUIT BOARD ORGANISER

Here's a way to be unique in a dull world. Where other organisers have fake leather covers, or that funny ridged vinyl that looks like corrugated iron, you can have one made out of real scrapped circuit boards! Solid metal all the way through, this one will last and last. Hmmm.

Contact: Brainwaves, Freepost SU316, Dept 5317, Hendon Road, Sunderland SR9 9AD. Price: £22.50.





OPTICAL MOUSE PEN

Sometimes a standard mouse just isn't accurate enough, especially when you're a budding artist getting to grips with *DPaint*. As everyone is used to using a pen or brush to draw with why not use one for your computer art? It's easy to grip, it's pixel perfect, it's worth a look.

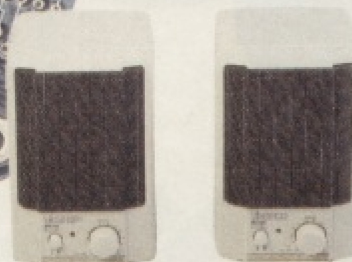
Contact: Golden Image, Unit 12A, Millmead Business Centre, Millmead Road, London N17 9QU. Tel 081 365 1102. Price: £29.95.



CORDLESS HEADPHONES IR900

I don't know about you but there never seems to be enough cord with my headphones. Even if you do get a long lead there's always the danger of tripping up over the wire. Not with these headphones. Plug the transmitter in to your TV or Hi-Fi and you'll get a 30-15.000 Hz response anywhere in the house.

Contact: Vivanco UK Ltd., Unit C, Boundary Way, Hemel Hempstead, Herts HP2 7SS. Tel: 0442 231616. Price: £69.99.



MINI-ACTIVE LOUDSPEAKERS MS55

Use your Walkman as a disco machine with these mini speakers. All right they're a bit tinny but at least you and your mates can listen to the latest rave beats at the same time. Our resident hip hop head, Tony, told me they were 'kicking', whatever that means.

Contact: Vivanco UK Ltd., Unit C, Boundary Way, Hemel Hempstead, Herts HP2 7SS. Tel: 0442 231616. Price: £14.95.



SUNAGOR LIGHTED MICROSCOPE

When I was younger I used to dream of a portable microscope so I could look at all sorts of dumb things. However, if you regularly work with PCBs then something like this could come in really useful. There's a 60x to 100x zoom and a light to help you see into dark corners too.

Contact: Brainwaves Catalogue, Freepost SU316, Dept 5317, Hendon Road, Sunderland SR9 9AD. Tel: 091 514 4566. Price: £19.95.

COPY HOLDER

Sick and tired of swinging your head up and down as your eyes go from that piece of paper on your desktop to your monitor? Fret no more, as here comes the Allsop Copy Holder to save the day. It sticks to your monitor! It holds up to 10 sheets of paper at a time! It's fully adjustable!
Contact: Euromax Electronics, Bessingby Industrial Estate, Bridlington, YO16 4SJ. Tel: 0262 601006. Price: £12.99.

TRACKBALL

It's a ball. It's got three buttons. And it's a shame the Hypersports isn't around anymore 'cos this'd be perfect for that game. If you're fed up with a mouse controller why not try a trackball for size? They're not everyone's cup of tea but some people can't live without one.
Contact: Golden Image, Unit 12A, Millmead Business Centre, Millmead Road, London N17 9QU. Tel 081 365 1102. Price: £29.95

ADVANCED TECHNIQUES WITH DELUXE PAINT IV

Are you really using *Deluxe Paint IV* as well as you think you are? There's probably quite a lot you don't know about it, such as how to generate smooth textures, and how to really take advantage of the Move requester. This video tells all, and could be exactly what you need for learning *DPaint*.
Contact: Burgess Video Group, Unit 6, Industrial Estate, Brecon, Powys, Wales LD3 8LA. Tel: 0874 611633. Price: £19.99

AMIGA GAMER'S GUIDE

As it's penned by our very own Editor how can I do anything but praise this work? Honestly though, it's a book of rare genius that provides you with the lowdown on all the top games that have appeared over the past couple of years. From complete guides to one line tips this book has it all.
Contact: Bruce Smith Books, P.O. Box 382, St Albans, Herts AL2 3JD. Tel: 0923 894355. Price: £14.95.

AUTO MOUSE/JOYSTICK SWITCH

Most of us play two-player games and it has to be said that at times, switching between the mouse and joystick can be a real pain. Thanks definitely must then go to Alfa Data for their mouse/joystick switcher, that automatically changes between the two depending on which is currently in use.
Contact: Golden Image, Unit 12A, Millmead Business Centre, Millmead Road, London N17 9QU. Tel 081 365 1102. Price: £12.95.

MICRO CLEANING KIT

Have you ever tried to clean a disk drive, or have you always been too afraid of damaging the heads? Have no fear, Allsop's here with a simple bottle and disk to clean even the grimiest of drives.
Contact: Euromax Electronics, Bessingby Industrial Estate, Bridlington, YO16 4SJ. Tel: 0262 601006. Price: £9.99.

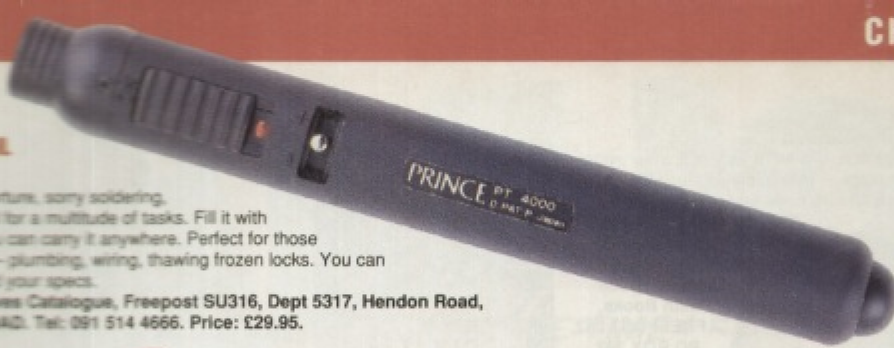
KEYBOARD HANGER

Isn't it irritating the way your keyboard clutters up the desk? Here at CU AMIGA space is at a premium, that's why we find these keyboard holders so useful. They're two piece affairs – one for the keyboard and one for the monitor attached by sticky pads. So, if your Amiga comes with a separate keyboard, why not get one of these?
Contact: Euromax Electronics, Bessingby Industrial Estate, Bridlington, North Humberside Y016 4SJ. Tel: 0262 601006. Price: £10.99.

AMIGA MADE EASY

There are so many ins and outs to a machine as advanced as the Amiga that you can't expect the novice to understand everything about it. Or can you? Patrick Hall's *Amiga Made Easy* tells you everything you need to know about the Amiga, from setting it up to running AmigaDOS commands.
Contact: Sigma Press, 1 South Oak Lane, Wilmslow, Chesire SK9 6AR. Tel: 0625 531035. Price: £12.95.

»



CORDLESS PENCIL TORCH

This brilliant mini torture, sorry soldering, device can be used for a multitude of tasks. Fill it with butane gas and you can carry it anywhere. Perfect for those small DIY projects – plumbing, wiring, thawing frozen locks. You can even use it to mend your specs.
Contact: Brainwaves Catalogue, Freepost SU316, Dept 5317, Hendon Road, Sunderland SR9 9AD. Tel: 091 514 4666. Price: £29.95.

MINI ACTIVE LOUDSPEAKER MS99

As games become more and more sound intensive, some of you may be finding that your monitor speakers just aren't up to the job. What you need is a pair of these! Vivanco active mini speakers, colour coded to sit with your Amiga and with active circuitry for that dynamic digital sound.
Contact: Vivanco UK Ltd., Unit C, Boundary Way, Hemel Hempstead, Herts HP2 7SS. Tel: 0442 231616. Price: £29.95.





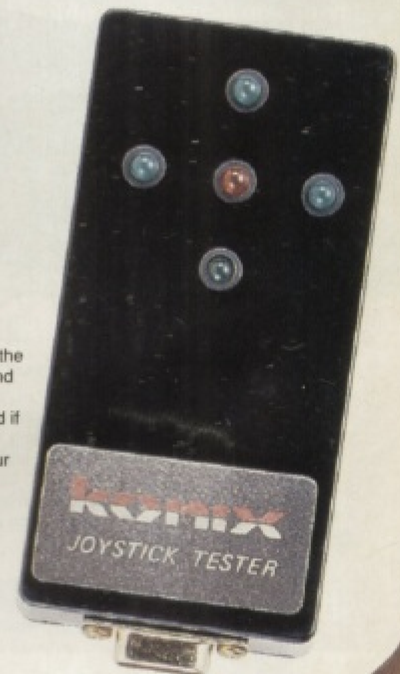
MOUSE AND MAT

These two items can be bought separately, but they're so cheap why not go for the pair? The mouse has an opto-mechanical encoder with a resolution of 350dpi, so there's no moving parts to go wrong.
Contact: Maplins, P.O. Box 3, Rayleigh, Essex SS6 8LR. Tel: 0702 554161. Price: £13.90 (Mouse £10.95. Mat £2.95). Order Codes: RT51F, JY43W.

THE HISTORY OF THE AMIGA

This documentary might not be to everyone's taste, but it certainly provides an interesting insight into how the Amiga came to be the machine it is. US magazine *Amiga World* have pulled the original team back together, and got them to tell their own story, and what a heartwarming story it is.
Contact: Burgess Video Group, Unit 6, Industrial Estate, Brecon, Powys, Wales LD3 8LA. Tel: 0874 611633. Price: £8.99.





KONIX JOYSTICK TESTER

We've all had it happen to us. We've been smashing through the last level of *Second Samurai* and all of a sudden we can't walk right. It wouldn't have happened if you'd had a Konix Joystick Tester to hand. Simply plug your joystick into it, and the LEDs light up to show you that each direction is working.
Contact: Konix. Tel: 0495 350101. Price: £14.99.

AVIATOR 1

Another gimmicky stick for flight sim'ers, this one is designed to resemble an actual aircraft control yoke. So, you pull back to climb and push to dive just like the real thing, or so I'm told. There's even an altitude/level indicator on the front.
Contact: Quickshot. Tel: 081 365 1993. Price: £27.99.



MOUSE PAD

Liven up those dreary desktops with a bright and colourful mouse pad. No more dreary blue and grey rectangles, this soft and durable pad features the most packed wildlife scene you're likely to see outside of Kenya. A rubberised back means that it will stick wherever you put it, and the textured front face increases the responsiveness of your mouse ten fold.
Contact:Golden Image, Unit 12A, Millmead Business Centre, Millmead Road, London N17 9QU. Tel: 081 365 1102. Price:£5.00.

COMPACT ZOOM BINOCULARS

If you're a frustrated bird watcher, plane spotter or even a nosy neighbour you'll find these compact binoculars will come in handy. They're 8-20x25 power, whatever that means, so you'll be able to focus on really distant objects with no trouble.
Contact: Brainwaves Catalogue, Freepost SU316, Dept 5317, Hendon Road, Sunderland SR9 9AD. Tel: 091 514 4666. Price: £99.95.



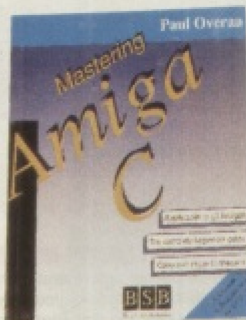
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MASTERING AMIGA C

Despite its age, C is still a very popular programming language — even more so since CU ran a beginner's tutorial. If you want to know more, then you can't go wrong with a copy of Paul Overaa's 'Mastering Amiga C'. **Contact: Bruce Smith Books, FREEPOST 242, PO BOX 382, St. Albans, Herts AL2 3BR. Tel: 0923 894355. Price: £19.95.**



PARKRITE

As the name suggests, place this in your garage and the ultrasonic sensors will help you park safely. It sends out a beam which detects how close you are to the end of the garage then changes colour from green through amber to red the closer you get. No more scratches! **Contact: Celltell Ltd., P.O. Box 135, Basingstoke, Hamps RG25 2HZ. Tel: 0256 64324. Price: £44.95**



PRO-BRIDGE COMPUTER

Those long winter evenings are drawing in so it's time to get the board games out again. If you can't find enough friends to make a four for bridge buy this computer. Personally I could never figure it out – all that trumping and winking... weird. **Contact: Brainwaves Catalogue, Freepost SU316, Dept 5317, Hendon Road, Sunderland SR9 9AD. Tel: 091 514 4666. Code: Price: £119.95.**

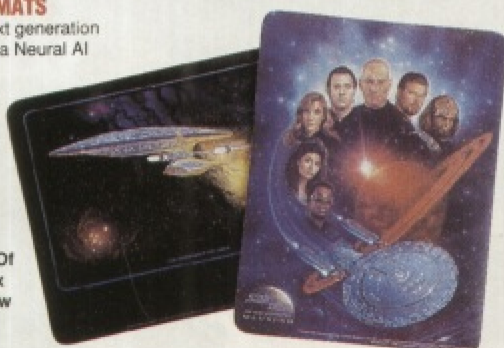


INTRUDER 1

Flight sim fanatics will get a kick out of this stick. If you're a fan of *Gunship 2000* this one'll make you feel like you're really there in the cockpit. With autofire controllers disguised as trim controls and a pop up fire button it's gimmicky but fun. **Contact: Quickshot. Tel: 081 365 1993. Price: £27.99.**

STAR TREK MOUSE MATS

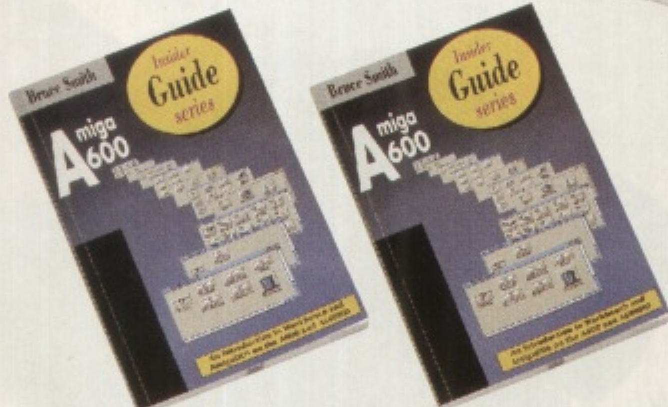
Bring a touch of the next generation to your Amiga. No, not a Neural AI chip, a Next Generation mouse mat!. These high quality foam backed pads won't slip, will improve your mouse control and blast you into the 25th century. (Apparently). **Contact:Mousetrack Of New England, PO Box 66, Peterborough, New Hampshire 03458. Price;£16.95.**



ALFA MEGAMOUSE MK II

Mice, mice and more mice. I don't know about you but I can't get enough of 'em. Hang 'em round your neck, tie them to a beam and make a swing – they're so much fun. Alternatively, you could just plug it into an Amiga and get a very precise resolution of 400 dpi out of this one. Spot on. **Contact: Golden Image, Unit 12A, Millmead Business Centre, Millmead Road, London N17 9QU. Tel 081 365 1102. Price: £11.95**





INSIDER GUIDES - A600 & A1200

When Commodore's newest machines hit the market, most people just didn't know what to make of them. Some people still don't. Shame that, as all you need is one of Bruce Smith's Insider Guides and you can have all the information you could possibly need about the A600 or the A1200. **Contact: Bruce Smith Books, FREEPOST 242, PO BOX 382, St. Albans, Herts AL2 3BR. Tel: 0923 894355. Price: £14.95.**



MICRO CLEANING KIT

A computer should be treated like a car, with regular servicing and constant cleaning. Not many people follow this practise, and as a result soon lose vital parts of their set-up (sticking mice, dead floppy drives etc). Stop rot in it's tracks with the Allsop Micro Cleaning Kit, with everything you need to polish those printers, mice, drives, keyboards, screens and just about everything else. **Contact: Euromax Electronics, Bessingby Industrial Estate, Bridlington, YO16 4SJ. Tel: 0262 601006. Price: £22.99.**



RE-INK

Don't throw away those old Dot Matrix fabric ink ribbons! They can be re-used quite easily – all it takes is a spray from a bottle of Re-Ink 21 and a little care, and before you know it, you've got a ribbon that's just as good as new! **Contact: Total Computing. Tel: 0202 717001. Price: £12.95.**

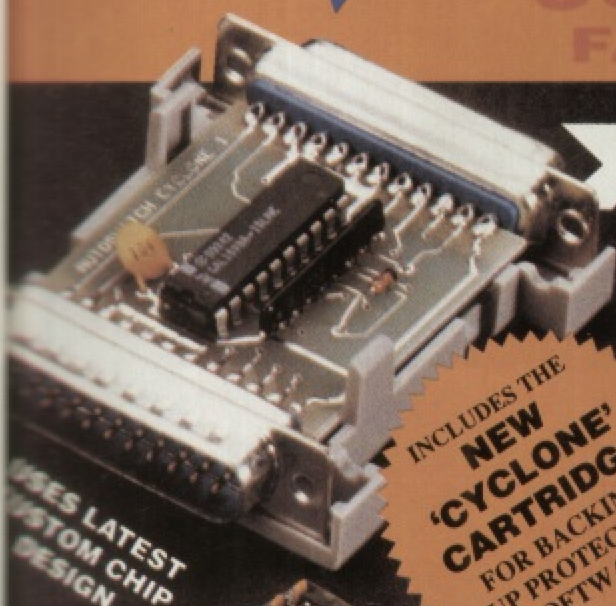
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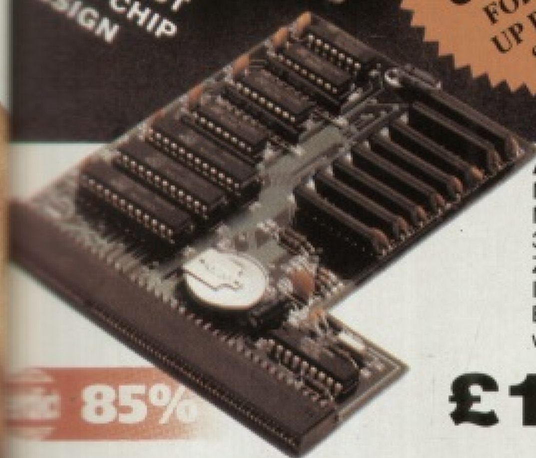
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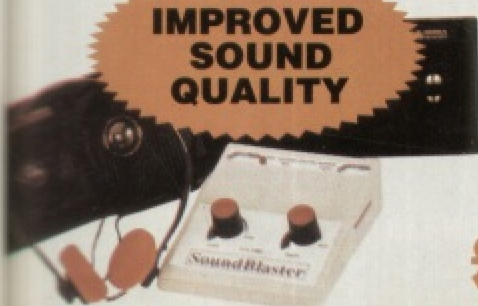
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These external hard drives come in an ABS box styled to match the Amiga A1200. They plug in vie the PCMCIA slot and include an external PSU so not to invalidate your Commodore warranty. Ultra fast data transfer rate of 2Mb/sec. Full 1 year return-to-base guarantee. They come supplied with all the necessary software to mount and configure the drive.

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The A1200 sports many features of the A4000 series. Based around the 68020 processor, 2M<b of RAM and WB3 as standard. A full range of hard drives are also available. The desktop dynamite pack is also supplied with a range of software specifically for the AA chipset, including DPaint AGA and Wordworth AGA plus others with a total RRP of over £300.

To put the icing on the cake SOFTWARE DEMON Ltd are offering Commodores latest Amiga A1200/Software bundle at the seriously reduced price of £299 when an OVERDRIVE 35 and A1200 are purchased together.

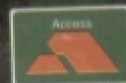


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The same specifications as it's big brother but designed around the EC68030 processor. Comes with a Hard Drive, 1+1 RAM and WB3. (FOR 2+2 ADD £69)

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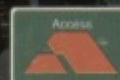


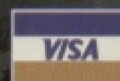
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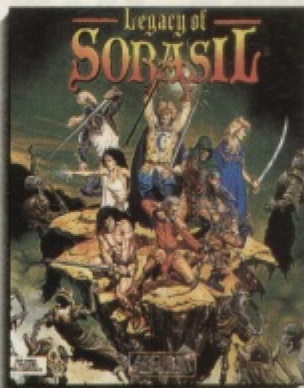
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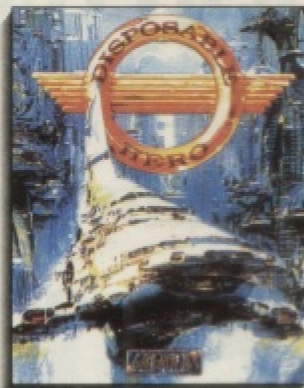
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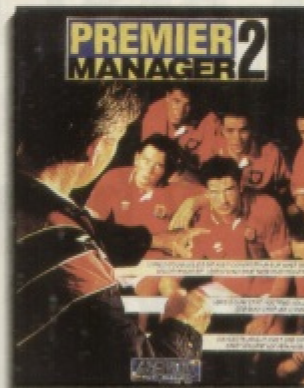
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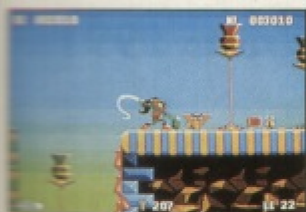


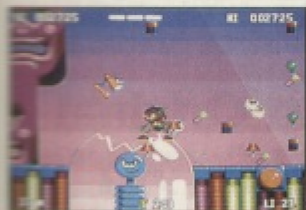




ZOOL 2

ZOOL, and his female companion **ZOOZ**, face a challenge which wilts the knees of the toughest Ninja's in this state of the art **PLATFORM ARCADE ACTION** sequel. **KROOL** and his accomplice **MENTAL BLOCK** are once again out to wipe imagination from the face of existence. Playing **ZOOL** or **ZOOZ** fight your way through **NINE** massive levels of hugely varied and enjoyable gameplay. Meet **ZOON**, a two headed alien dog, one head stupid, the other highly intelligent.





Features Include:

- Play either **ZOOL** or the all new **ZÓOZ**, each with their own special strengths.
- A wide variety of highly intelligent enemies.
- Many varied power ups and collectibles.
- Hidden bonus rooms and secret levels.
- Sizzling sound FX and a choice of in game tunes.
- Nine huge levels.

"The classic sequel to 1992's biggest selling Amiga game".

K240

Only when you take control of **K240** in this superb **STRATEGY** game will you understand what real pressure is. The Terran Empire has expanded. Mankind and six Alien races are struggling to maintain peace in the face of dwindling resources. Is destruction inevitable.

You are the Commander of the mission to explore and exploit **K240**, but can you build a successful and peaceful colony deep in the recesses of space, or will greed and aggression bring the empire down.





Features Include:

- 6 different Alien life forms.
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- 16 different types of weapons and shields.
- Fully designable asteroid field interface.
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- A vast range of complex interactions to understand and control.

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THE LEGACY OF SORASIL is a fantastic and huge world of adventure. The fabled land of Rhia has fallen foul of a mysterious plague. Choose a party of intrepid adventurers from 8 would be Heroes and try to return the land to it's peaceful state. Battle your way through 10 vast stages against a legion of highly intelligent foes. Endless hours of solid and far reaching gameplay.





Features Include:

- 10 perilous quests to be completed.
- Stunning 3D isometric display.
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- 8 heroes, all with specialist skills and abilities.
- Eerie sound FX and tunes.
- Fully self mapping.

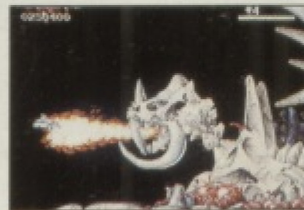
"If you want challenging gameplay and a game that's going to last you can't go far wrong with this".

CU Amiga

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Features Include:

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"First impressions? whoah! blast, blast, boom! death, guns, more death, action and excitement!"

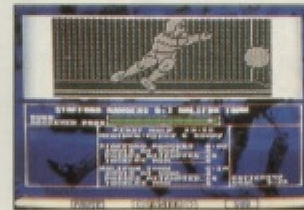
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- Set ticket prices and crowd control.
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"This really is the best bits of all the footy games, bundled together and laid out on a golden plate for you".

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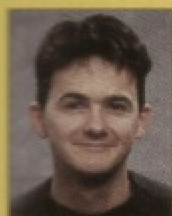
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CD32 ZONE

The only place for news and reviews on the CD32

WE HAVE TAKE OFF!



It's been an incredible month of activity on the CD32. Our office has been bombarded with press releases, screenshots, demos of upcoming releases and, most importantly, review discs. It seems that all the major software companies are now falling over themselves to release products. By the time you're reading this there will be at least 30 titles available in the shops, plus another 20 waiting in the wings. Yes, that's right, you'll be able to pick and choose from 50 CD32 titles before Christmas. Although this is a slight drop on Commodore's earlier promise of between 70-80 titles, it's still an incredible achievement. What other machine has had so many software titles available so soon after its launch? None. So well done Commodore, it looks like you're finally firing on all cylinders. Consequently, expect our CD32 coverage to dramatically jump next issue.

In other news, Commodore have just released their latest batch of sales figures for the CD32 which show that they've sold a staggering 65,000 units in just over six weeks! With the Christmas buying season about to kick in and a successful ad campaign launched in both the specialist press and on national TV, Commodore are realistically hoping to sell treble that number before the new year.



On an even more optimistic note, rumours have reached our shell-like ears of not one, but two, CD32 expansion boards, both of which should be available before Christmas. One of these will actually transform your CD32 into a fully fledged A1200 and comes complete with floppy drive, keyboard, MIDI and IDE interfaces – all for the measly price of £199.99. Coincidentally, that's also the price Commodore are quoting for their much-awaited FMV card for the CD32 which officially goes on sale the first week of December. And just wait until you see what they're going to bundle with it! More news next month.

Dan Slingsby - Editor

NEWS

US AND THEM

Although most of the CD32 titles are being published by UK software companies, a few titles have been produced in the United States. We've just received gold disc copies of *Defender of the Crown 2, Grolier's Encyclopedia* and *Insight: Technology*, all of which we'll be reviewing next issue.

Defender of the Crown probably needs little in the way of an introduction. This strategy game pits the player against four computer-controlled opponents as you set out to raise enough money to set free your old mate, Richard the Lionheart, from a ruthless band of kidnappers. The CD32 incarnation of this Amiga classic has been radically overhauled with enhanced graphics, narration throughout and in-between video sequences. Jim Sachs, the game's original designer, has retained much of the original gameplay, including the castle storming sequences and the jousting encounters. The other two titles are encyclopedias, with animated sequences, video clips of historical events, and lots of narration making them much more enjoyable than the bulky text-based affairs you'll find hidden away in the darkest recesses of your local library.



MICROCOSM ARRIVES!

You've probably been drooling over the CDTV demos for the last 2 years! Well, now you can actually get a hold of the game for real. Over the page you'll discover an exclusive CD32 review of Psygnosis' Microcosm, the very first totally original game for Commodore's new super-console. And it's a belter!

THE DEMO DISC - NOW SHOWING AT A STORE NEAR YOU!





Commodore have finally released their first demo disc for the CD32. Aimed exclusively at the retail trade so that they can show off the machine's capabilities to Joe Punter (that's you and me!), the disc features playable demos of *Pinball Fantasies, RoboCod, D/Generation* and *Sleepwalker.* Also, included is an excellent Jim Sachs animation which involves a rather pathetic and uninspired dinosaur game morphing into the 'real thing' (see picture) – it's absolutely stunning, but lasts for only ten seconds before the rolling demo moves on to other things.

This is undoubtedly the highlight of the disc as there's also a rather smart 'Aliens over Washington' skit involving a number of flying saucers skimming over the White House.

On the minus side, Commodore have included a rather naff CDXL demo which attempts to show off the full motion video capabilities of the CD32, but which actually doesn't do anything the CDTV couldn't have handled. There's also a fly past in a jet fighter across a fractally generated landscape - the least said about this the better! It's slow, uninspired and fairly unconvincing.

On the whole, though, it's an amazing disc and well worth checking out if you want to see what the CD32 is capable of. Catch it at a store near you now.



Maybe the new telly programme, DSV SeaQuest, could have taken advantage of the CD32's capabilities as this underwater sequence is much better than anything they've come up with!

After years of hype and speculation, the world's first ever CD32 specific game hits the market, and Tony Dillon is surprised to discover just how good it really is.

Just one frame from the gorgeous set pieces that appear through the game.



MICROCOSM

I have to admit, I was feeling more than a little sceptical about this one. Psygnosis have always had a reputation for incredible intro sequences and game graphics, but have often found themselves floundering on the actual gameplay. When I heard that the apparently fabulous FM-Towns title *Microcosm* was to be ported to the CD32...well, you can't really blame me for thinking the worst, can you? After playing the FM Towns version, I was even more worried. Nice graphics, shame about the game really.

WHAT A GAME!

The CD32 version is a totally different kettle of fish, though. Nice graphics, sure, as you can see from the numerous screenshots on these pages, but what a game! *Microcosm* plays as well as it looks, and that's some complement.

If you aren't familiar with the game, it tells the story of the President Elect of the gigantic Cybertech corporation. Well, not so much him, more his insides. A rival company has taken over President Korsby by sending miniaturised robots into his bloodstream with the aim of controlling his brain. It would have worked fine if someone hadn't got wind of it and sent a tiny version of you in after the bad guys. After that, well you can guess what happens next, can't you?

Yup, it's a mighty battle through the various holes and tubes within the body, with you battling against the shrunk-in-the-wash warriors and the body's own defences. There are dozens of the armoured robots whizzing round the body, along with rapid firing blood corpuscles, ceiling mounted, cannon blazing brain cells and the odd trail blasting tumour. Yes, it does all sound a little disgusting, but then this isn't a game for the squeamish. By squeamish, I mean the kind of people who can happily sit through 'Night Of The Living Dead', but turn green during 'Heart Of The Matter' or 'Jimmy's'.

BODY MATTERS

There are five main levels to the game, each set in different parts of the body. You start life racing through the veins, laid out as a maze with you rocketing through searching for the end of level bad guy. All the time opposing sprites

THE ORIGINAL...NO LONGER THE BEST

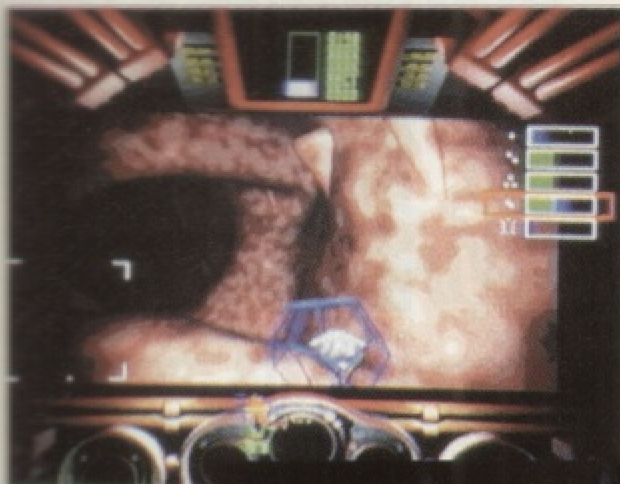
Microcosm originally appeared on the Japanese FM Towns console two years back, and wowed the Japanese public with its stunning graphics. Compared to the CD32 version, however, it looks a bit sad. Less colours on screen, nowhere near as fast, dull attack waves and only a crosshair on screen instead of your ship, it ends up dull to look at and dull to play. Thankfully a lot of the game was overhauled while being converted!



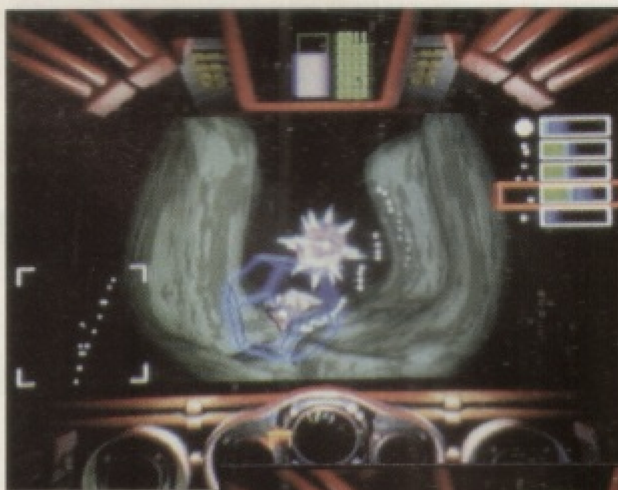


Above: The end of the bone section, and you come up against this guy, who obviously never learnt the benefits of regular brushing!

Left: The brain is both an early level and the final level. All you need to do is figure out how to get from one hemisphere to the other.



At various points through each maze, you can split to different paths by steering hard.



This spiky flower sits on screen and fires non-stop at you. Are you hard enough?



Here's a part of the game you won't see on the FM Towns - this section's taken from the Mega CD conversion.



You can jump between canals on the brain, giving you a bird's eye view of the inside of the skull.

are flying at you at a terrific rate. After that you've got a chase through the bones, where you have to follow another ship through the entire body.

Other levels take you through the heart, brain and various other lumps of flesh. At certain points of each level you leave the part of the body you're in and enter a large waystation base – similar to a space station. Here you can interrogate the on-board computer on the whereabouts of the enemy ships, upgrade your ship and recharge your weapons.

Of course, it's a shoot 'em up, and quite a basic one at that. Playing like *Mega Apocalypse* with fancy backdrops, it is basically your ship, moving in two dimensions and firing in a third.

The enemy sprites come from in front or behind, and you have to blow them away using one of your five weapons systems: single fire, double fire, triple fire, homing bullets and a smart bomb.

There is a little decision making to be made at points in the game where the path splits two ways, where you steer hard left or hard right to turn down the passageway you want.

One point to make here is that you are not steering the craft down the tunnels; you can't hit the walls and for the most part you don't interact with the backdrop at all. All the backdrop is, is a rolling animation that adds some atmosphere – It's best to »

PRE-SHRUNK

As you have probably realised by now, Psygnosis aren't the first people to use the idea of shrinking someone and putting them inside someone else's body. Here's a brief but informative run down of some of the other games and movies who have tried the same idea.

FANTASTIC VOYAGE

Racquel Welch and Donald Pleasance star in the original shrink movie. A brilliant scientist holds the future of the world in his hands, and only these two, plus some others who we can't quite remember, can save them.

A rolling epic of a blockbuster that features some quite stunning effects, plus some really, really awful ones. The acting's pretty bad too, but then what do you expect?

INNERSPACE

Dennis Quaid and Martin Short get together as a comedy double act in Stephen Speilberg's wonderfully directed (aren't they all?) tale of a scientist who has perfected the miniaturisation process, and is all set to test it out with Dennis Quaid.

Unfortunately, the lab where he is working is broken into, and the syringe with Quaid in it gets stolen and accidentally injected into Martin Short in a shopping mall. Hilarious consequences and antics ensue.

GERM CRAZY

A really awful strategy game from Electronic Zoo, itlet you wage war inside a body. Infections were green tanks, and you had to wipe them out with all sorts of silly weapons. Not much fun, and extremely primitive.

THAT INTRO...



We start the cinematic sequence in Space, looking down at the Earth of the future.



Panning down, we see that Blade Runner was right all along...



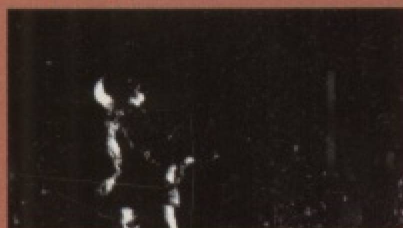
The local newspaper shows the rivalry between Cybertech and Axiom.



The grimy city ruled by the two super corporations...



...lies in the enormous shadow of the Cybertech building.



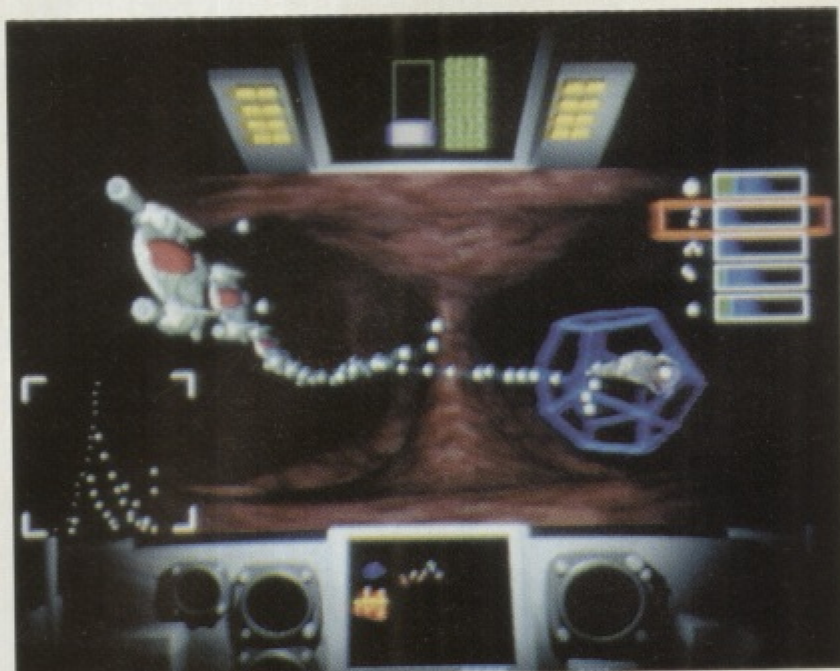
On top of the building, a guard spots something above her...



Radioing back, she is told that a military chopper is escorting a medicopter to the building.



The military hover at the edge of the building, making sure the coast is clear.



That spinning blue thing round your ship is a shield, and with enemies like this, you're going to need them!

» think of it as an alternative to a scrolling starfield and you'll get the idea.

THE WAY IT LOOKS

I've avoided them so far, but I now feel it's time to talk about the graphics. There is nothing on this page indicative of how incredible this game is to look at. Still shots just can't do it justice at all. With over 400Mb on the disk, this is one hell of a good looking game, all graphics having been rendered on Silicon Graphics workstations. Where most rendered stuff up until now has tended to look metallic, or shiny but with a lot of sharp edges, over the past 18 months the Psygnosis graphics team have polished and chipped away at every corner and facet and ended up with a game that looks disgustingly organic. Veins pulse and throb, with dark red threads running beneath them. The canals of the brain are a spooky and dark place to be, huddling below a ceiling of skin membrane. As for the heart...yeuck!

Even these graphics pale into insignificance when placed alongside the stunning intro and linking sequences. Tobias Richter, step down. This is what Amiga animations should be like. Take the intro sequence (of which the first half is pictured here). Eight minutes long, it plays like a mini-Blade Runner, panning through the city before closing in on the Cybertech building. We go inside and see the briefing that leads to the President being taken over.

There are numerous sequences within the game that keep piling the atmosphere on, such as when the ship leaves a vein and flies into a major organ, or my personal favourite, the death sequence, which shows you inside your ship rocking about as it smashes into the walls *a la* Star Wars.

The only thing that stops the graphics from being perfect are the main game sprites. They're just not as sharp or realistic as the backdrops, and as such look 'pasted on'. A shame really, as a little more detail would have made the screen look more complete.

THE WAY IT FEELS

The big question of course is how does it play? As well as you would expect a top quality shoot 'em up to play, basically.

It all runs in a frame, and the action is fast and smooth. If you're not a fan of the CD32 joypad you'll find it fairly tough, as it uses most of the buttons – joysticks are out.

The key feature to *Microcosm* is that it uses the CD capabilities of the to the full, and as such stands as the most important and the most impressive CD32 release to date. This is the game that console owners have to have. CU

THE JOY OF CODING

Stuart Sargaisson is a name that should be more than familiar to CU AMIGA readers by now, mainly because he's appeared on these pages so many times recently! Stuart is also the man responsible for the bulk of *Microcosm*, along with Richard Weeks and Pete Marshall, and therefore is the man responsible for the first full CD32 game.

We asked Stuart what the differences were between coding for floppy and coding for new CD platforms.

'As the CD32 is essentially an A1200, you're still constrained by memory, but the beauty of it is that you can pull a lot of data off the CD at any time. If you've finished with a bit of code or a sprite, you can chuck it away and load in some more.'

'It's not all good though. There are downsides to coding on the CD32. For a start you have to keep everything Exec. legal, which slows things down a bit. Most games throw the Amiga operating system out the window and generate their own, but we have to stick with this. Generally people work under that sort of constraint if they are making something Hard Disk Installable, which means it can be easily copied. Obviously when you're working with CD, you aren't concerned with Piracy, your main concern is losing time within a frame. Did you know there are no hardware registers that point to the CD drive? You have to call it from within the system, which takes up a lot of time. You're reading data at 300K a second, which makes it much faster than the Mega CD, but you have to spend a lot of time getting that through the bus.'

'It's nice to have the AGA chipset as standard, though!'



The end of the vein level, and this enormous spinning space station is just waiting to take you on.

BRAVE NEW WORLD

The whole thing has been pieced together by a twenty person team in Psygnosis' new London office. A fantastic architect's office, the large open plan room is a graphic artist's dream, with Silicon Graphic workstations all over the place. At present there are several other games under development, all using SGIs to produce stunning graphics, and almost all running to FM Towns before being converted to CD32.

The next game to come from this stable is *Scavenger*, another 'flying through tubes blasting everything' blaster, with even better graphics and a few novel twists. More when we have it.

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RELEASE DATE:	NOVEMBER
GENRE:	SHOOT 'EM UP
TEAM:	IN HOUSE
CONTROLS:	JOYPAD
NUMBER OF PLAYERS:	1

GRAPHICS	96%
SOUND	84%
LASTABILITY	81%
PLAYABILITY	87%

The game the CD32 was built for. Stunning stuff.

OVERALL 86%



A guard gives the all clear signal, and the medics approach.



The military come in to land, covered at all times by Cybertech's vigilant army.



An army that includes huge walkers along with standard armed guards.



The medicopter prepares to land.



One of Cybertech's chief guards radios to the military that the chopper has landed.



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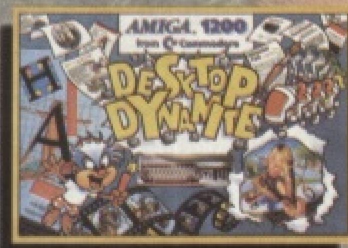


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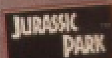


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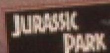


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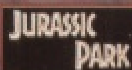
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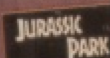
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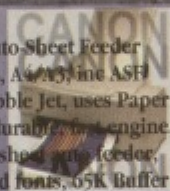
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(*Also for Apple StyleWriter)
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ACCESSORIES:

9/24Pin, 80Column Colour Kit (not 124)	£37.95
24Pin, 32K RAM Expansion (not 200/240)	£13.95
24Pin, 32K RAM Expansion for 200/240	£19.95
24Pin, 128K RAM Expansion (not 200/240)	£32.95

star Accessories & Consumables

	MONO	COLOUR
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LC200	£5.95	£10.95
LC24/200	£6.25	£12.45
INKJET CARTRIDGES:		
SJ48	£15.95	NONE
SJ144	£10.95	£12.95

AUTO SHEET FEEDERS: All 80Column Models... (Please specify model when ordering) £84.95

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2. 32Bit LIGHTNING FAST Zero wait state FAST RAM (normally quicker than PCMCIA cards)
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7. Full TWO YEAR WARRANTY

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33MHz. FPU Maths Co-Processor	£79.95
BUY ALL THREE TOGETHER FOR JUST...	£369.95

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1. 400-500% performance increase on all applications (with additional on board RAM)
2. Optional fast (up to 10Mb/sec) DMA SCSI-II interface for CD ROM etc. (CDTV, ISO-9660 Formats), Removable/ Drives (Syquests Bernoulli etc) as used on Macintosh etc.
3. 40MHz 68EC030 Processor
4. Up to 50MHz 68882 PLCC or PGA FPUnit (Maths Co-Pro)
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8. No software required, just plug in and go!

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FASTLANE Z3 SCSI-II Interface

Lightning FAST Hard Disk access for all Amiga A4000 owners. The only IDE answer...

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Compatible with ALL A500's & A500Plus (A1500 & 2000 versions available, please ask for details)...

1. Plugs into sidecar expansion slot A500/A500Plus
2. Speeds up your Amiga - up to FOUR TIMES NORMAL SPEED!
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All prices are inclusive of VAT at 17.5%. Prices are correct at time of going to press and subject to availability - E&OE.



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Vidi 12 & Sound & Vision	£94.95
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NEW Technosound Turbo 2	£44.95



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Our internal A600/A1200 Hard Disk Drives are all high quality industry standard units manufactured by recognised and respected worldwide market leaders (eg. Conner, Seagate, Western Digital etc.). Each Hard Drive comes with a one year warranty, driver software, fitting kit and full instructions for you to fit. And... back up and repair utility software. If you prefer we can install your drive for you and you'll benefit from...

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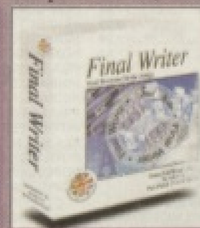
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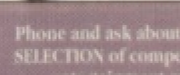
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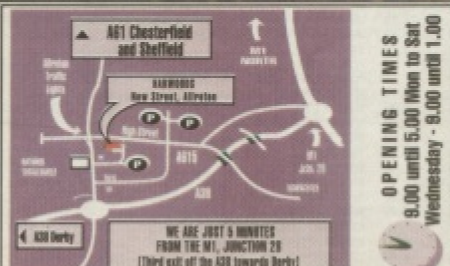
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LOOKING *TO THE FUTURE*

With the advent of AGA technology and CD as a storage medium, Amiga graphics are heading for one hell of a revolution. Even now there are people who are preparing for the future and are taking the first positive steps towards the game visuals of tomorrow. Tony Dillon investigates by cleaning his monitor for the first time, and finds that things are very different from the last time he saw anything on it.

LOOK HOW FAR WE'VE COME!

Flicking through some older issues of Commodore User (as CU Amiga was once known!), I couldn't help but notice how dated many games look now. Games that were once way ahead of their time, revolutionary or astounding could now be easily replicated with a copy of *Easy AMOS*. Even the demos looked a bit on the simple side, particularly an early Tobias Richter still that looked like it came off a Spectrum. In five years we've seen such visual advances as high-speed polygons, more colours on screen than we ever thought possible, texture mapping, 3D rendering, real time light source shading and many other techniques deemed impossible in the days of the Juggler. Thus this feature was born, and although it neither represents the views of CU AMIGA nor the general public, it's interesting to take a look at the games in production that are starting the next visual uprising, and to ask the minds behind these images 'where to now?'.



KEVIN BULMER - SYNTHETIC DIMENSIONS

FINEST HOUR: Legends Of Valour



The cinematics of the game have been well researched. There's nothing like stubbing out a cigarette to add atmosphere.

Kevin Bulmer is one man you should never say 'It can't be done' to. While everyone else was messing about with slow, chunky polygons, he was creating *Corporation*. Everyone else began to catch up, so he came out with *Legends Of Valour*, a roller coaster of an adventure, and the first to feature real time texture mapping. Always forward thinking, we asked Kevin how he saw the future of game visuals.

'There are going to be a lot of canned sequences,' he begins, a smile playing about his lips. 'There are going to be a lot of things predrawn and stored on the CD. *The Seventh Guest* is very pretty, but I haven't spent enough time playing it to find the game in it yet. What we're trying to do is make a game of the same quality, perhaps even better with the rendered graphics and what not, but we want to bolt it onto a deep game. *Derelict* is a mission-based game, with places to explore and people to rescue, but in a 3D texture mapped, light source shaded environment. On CD32, this will go a storm. It'll be so fast, and you'll be able to use all the colours.'

What about the belief that to get the best results, you've got to use the best? Of all the times I've seen Kev and the boys at Synthetic Dimensions, I've never seen a Silicon Graphics workstation set up.

'Everything we've worked on has all been originated on the Amiga. People are pushing us to use Silicon Graphics, but we won't be using them. It's not that we're naive, or that we can't use them. I've used them thousands of times, but there's just so much you can do on the Amiga. People are just rushing out to get these machines, and they all think we're stupid. I think it's sad really, especially with software like *Imagine 3* and *Real 3D*. Between them, they can do things that you can't do on Silicon Graphics machines, so why worry about it? People fall into the trap of saying, 'Oh, these machines are so much faster than Amigas, we'll get more done', and it just doesn't work out like that. The only thing you need to be fast is the rendering time, but you never witness the rendering. You spend all your time making the models, setting up the animations and setting up the scenes. The rendering is done when you've gone home at night!'

So we come to KB's latest project. A mammoth derelict spacecraft sets the scene for Derelict, *a game that will hopefully show the world that adventures such as* Seventh Guest *can be playable.*

'Our *3D engine* has come a long way since *Legends Of Valour*. We've thrown away the code we developed for that and started again. While we were nearing the end of working on it, we thought "we can do this quicker!". So we started again, with this totally different way of doing things, and this new system includes things like transparency on panels. We had them in a rudimentary form in *Legends*, but it slowed things down a lot. Now we've got this working, we can stick a huge chunky triangle, and then lay on a texture map with some transparancy, and this simple polygon can look like an eight or nine sided, concave polygon with texture mapping!'

Looking ahead for the moment, where do the Wolverhampton wanderers see graphics going?

'The future lies in 3D stereo images. But it has to be used creatively. People have to accept that you can't just pick up a stereo head mounted display, pump out some data and it will work. You either won't get the depth perception and it'll look flat because your maths are wrong, or you'll get too much of it and people will be going away feeling sick.'



Can you really have a derelict spacecraft that doesn't come with green scaly aliens? Of course not!

»



SEAN GRIFFITHS - MIRAGE

FINEST HOUR: The Bitmaps

Have you seen *Rise Of The Robots*? Do you think you know it all when it comes to beat 'em ups? The world didn't end with *Streetfighter 2* you know. In a small corner of the sleepy town of Congleton, it's only just beginning. Take a playable, one-on-one kickabout, make the adversaries robots instead of huge, hulking Kung Fu experts, and add some of the most detailed rendering yet seen on the Amiga. Sean Griffiths, ex-Bitmap that he is, talked me through what could be the Next Big Thing.

'We started with the advent of the CD-ROM. The big question is, "How are you going to fill a CD-ROM?" You can fill it with music, as that's the cheapest and easiest way of doing it. We wanted to use graphics, but there's no way a conventional pixel artist is going to fill a CD-ROM, so we went with rendering, which is what everyone is going to be doing in an attempt to push CD to its limits. So, we get to the next question, which is 'How do you fill a CD-ROM with graphics?'. You can either use digitised stuff, which is an easy way to do it, or you can use rendered images. I think that the pixel artist way is a very labour intensive method of producing graphics. When you think about it, a pixel artist sits down and has to draw every single pixel – it's just too labour intensive! Then when he comes to animating, he has to start again and draw every pixel again...3D modelling is the way forward, I think. It's actually a better way of creating a game than a film. You have more control over the synthetic actors and the backdrops. We are basically making a film, with full cinematics, but we don't need a studio or actors because we're doing it all on computers. Obviously, once you've built all your models and sets, all the frames of animation and what have you are very straightforward. You choose the key moves, and the computer interpolates all the frames, making it the best way of creating graphics.'

In an age where cutting edge graphics systems based on polygons and sprites are old hat, what kind of progressions can be made?

'Whilst this product has been in development, we've taken quite a major step. This is state of the art – rendering is state of the art, but the next stage which we've actually moved into is texture mapping. We started to build our models and render them, and thought that they were all terribly flat. They're nice and smooth, but there was no detail to them, so we started to do texture mapping and it makes a hell of a difference. We generate our own textures, as opposed to using *3D Studio* textures which is what everyone else is doing. We spent a long time creating them, not only for the interiors, but for the actual robot models themselves. Minor details like scratches brings the whole thing to life. We're getting to the stage where some of our stuff doesn't look like rendering, it looks almost real. I suppose that's the objective. That's an interesting point, how real do you want it to look? Should it look real, or should it actually look computer generated?'

Authenticity is obviously the name of the game, particularly apparent when you look down the list of people working on the project For example, all the rooms were actually designed by an interior designer rather than the less specialised graphic artists.

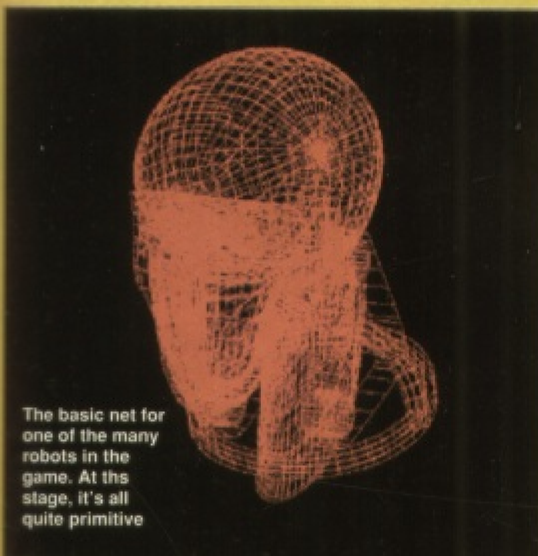
'We thought it was pretty important to use an interior designer for the backdrops. There are three areas to this game; there's the building of the robots, there's the animation and there's the backgrounds. We wanted to make the whole environment as real as possible, and it does actually exist as a 3D world inside the computer. All the meshes are there, the robots, the rooms, all the little bits and pieces – God knows how many spin offs we're going to do now we've done all this! Kwan just said to us, surely you'll need someone to do your interiors and your backgrounds. We thought it was a really good idea, so he does all of that. He loves it as well, he loves all the boring stuff like putting pipes together. It's his trade, he loves designing walls and wallpaper. He can design a whole building and, as he's got no budget whatsoever, if he wants it to be gold, it can be gold! He's gone a bit crazy on this one, because he's made it so big! If a camera director came to us, we'd talk to him. Why not? The main people we'd be interested in are people who have done stop motion animation, because that's exactly what this is.'

Oddly enough, even though the team are working on such a visual product, there isn't a Silicon Graphics machine to be seen anywhere in the Mirage office.

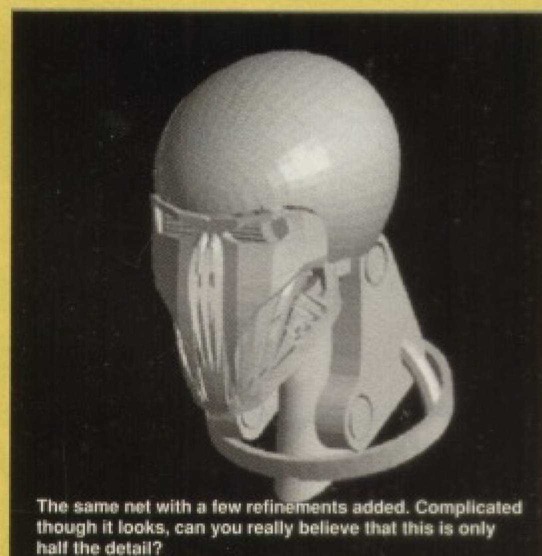
'This PC that we're using has 64 Meg of RAM and a Gigabyte hard disk and a 66 MHz processor. The meshes that we've got are so complicated, each one takes up about 20 Meg of RAM, and when we put the rooms in there that's another 20 Meg, so we're talking 40 Meg per scene. Then you start to add your textures and what have you and it goes out the roof! We didn't feel that it was cost effective to use Silicon Graphics. The team that we've put together, we've pieced together from scratch, taking individuals from specific areas. As far as we're concerned, it's not the software and it's not the package, it's the people that make the difference. One software publisher I was talking to was saying 'Oh, I've got my guys working on Silicon Graphics workstations', and we're working on *3D Studio*, but the results are the same. OK, so maybe it takes less time to do the rendering, but we do most of our rendering at night, like most people do, so it doesn't make much difference. The lowest end Silicon Graphics machine costs over twenty grand, and this set up we have here cost us eight thousand, so we could buy three of these for one of them! I'm sure we will move on to Silicon Graphics, but for this project it wasn't worth it. I think too many publishers have thought 'if we spend a hundred grand on this stuff, then our games are going to be brilliant!'



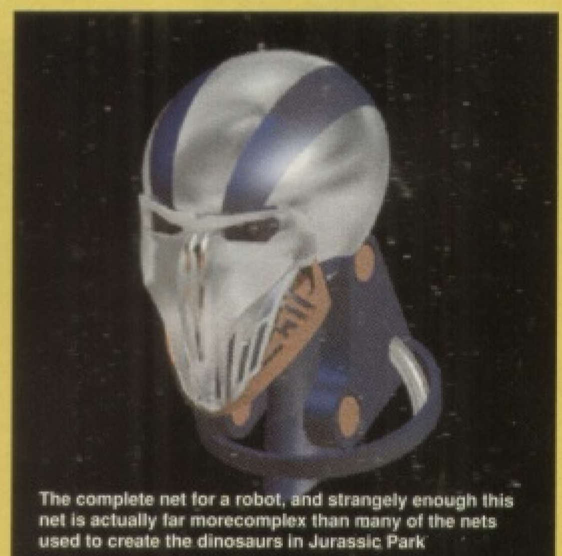
The finished robot. Stunning or what?



The basic net for one of the many robots in the game. At ths stage, it's all quite primitive



The same net with a few refinements added. Complicated though it looks, can you really believe that this is only half the detail?



The complete net for a robot, and strangely enough this net is actually far morecomplex than many of the nets used to create the dinosaurs in Jurassic Park

'We're using a lot of the same techniques that you see in the film industry. Our robot meshes are more complicated than the ones in Jurassic Park. This is the level of detail we wanted.'

»

JONATHON COURT - THE DOME

FINEST HOUR: Bob's Bad Day

Consoles really stole the scene a couple of years ago when machines like the Super Nintendo and the Megadrive appeared, with their custom graphic chips and fancy visual tricks. It's taken a little while, but now the Amiga is beating the games machines at their own specialities. Take *Bob's Bad Day*, for example. Not only does it imitate Mode 7 rotation, it does it better and faster!

'*Bob's Bad Day* initially came from a tables idea I was thinking about after seeing a PD game called Wolfenstein on the PC,' says programmer Jonathon Court from their Norwich base, stuck in the middle of nowhere. 'I was thinking of the tables that were used to generate the 3D stuff, and hit on the idea of using the tables to rotate blocks around the screen very quickly. Basically, it allows me to specify the rotation and know where a block is going to be fairly instantly. That was a couple of evening's work. I generated the table in an evening, and didn't think about it for a couple of weeks. Eventually I thought I'd do something with that, whilst I was doing *Deliverance* on the Sega Megadrive. Initially I put it in with balls as the background, and then we put the platforms in and it developed into a spacey type game. There wasn't a cute character in it initially. When we were doing the rounds, it was suggested that people like something to focus on, so we put some clouds in there, a blue sky and the little fellow on the panel.'

> *"I was thinking of the tables that were used to generate the 3D stuff, and hit on the idea of using them to rotate blocks around the screen very quickly. Basically, it allows me to specify the rotation and know where a block is going to be fairly instantly."*

Interestingly enough, the Mode 7 similarities didn't become apparent until some time later.

'We weren't consciously emulating mode 7. I thought I was doing something pretty unique at the time, but it's that effect I was trying to emulate. To be honest with you, for the first few days it was a test to see if I could get the speed up. The initial set of graphics, which take up level 1 – the colourful set of graphics – uses only a few colours so I could reduce how much I was writing to the screen. Obviously that was a limitation, so I just thought I'd try putting some extra colours in the graphics with little time reduction, and so the other levels were born. The hardest part was probably the ball collision.'

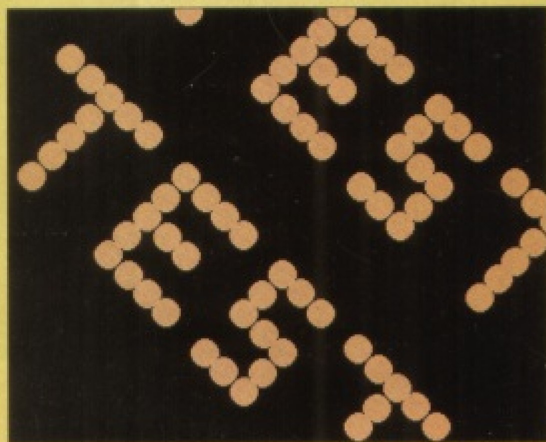
One thing the system doesn't do at the moment is generate the sprite rotations in real time. 'The sprites are pre-calculated. The only thing it does is position them. It positions the blocks using a series of tables. Effectively, if I didn't use the tables it would be half a 3D routine. I use a special cutter, which ensures that the blocks are only put down as much as needs be. i.e. if you had a block which was at a diagonal, it would only draw from one tip to the opposite tip, always reducing how much I write to screen. The table system I use could be adapted to be used with a Mode 7 perspective, with a few extra calculations. Whether we are going to or not is something we are currently thinking about.'

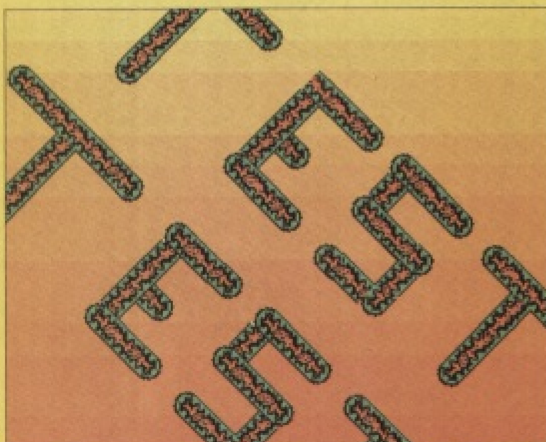
So what is the future of The Dome's rotation system. How much further can we see it being implemented?

'I'm looking at implementing the system on A1200/CD32 machines. What I want to do is look at filling the screen with blocks, which does happen on one level of *Bob's Bad Day*, which is literally a screen full of graphics rotating. I want to look at doing that, or simulating the fact that it's doing that, but with a lot more colours (16 colour background, 16 colour foreground). It'll be an experiment for a little while.'

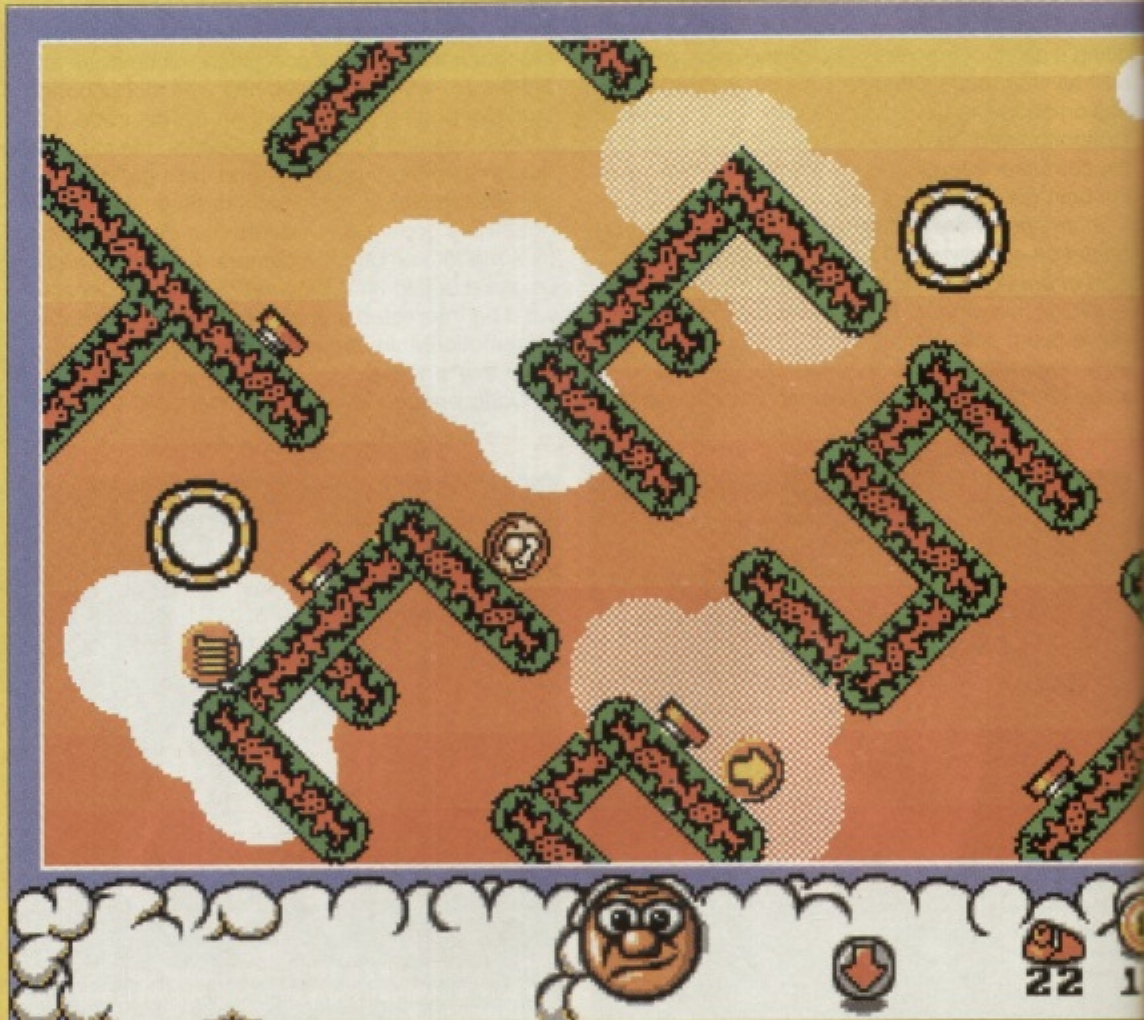
Looking further ahead, where can The Dome see computer games heading?

'With the CD machines, I can see mostly what we have now, but with extras like soundtracks, nice graphics, digitised film sequences. That'll be the bulk of CD. These machines lend themselves to things like textured polygons, so obviously you're going to see a lot of games with that. The future of the industry is in Virtual Reality, though. You're talking ten to twenty years away, but computers will eventually get powerful enough so that VR will look like a cartoon or a horror film. Then it will be something you'll want to do. I can see that running into a lot of trouble, though, because as it becomes real it will be an escape for people – something as troublesome as alcohol.'





Top: The original tables were first used with single balls, to see if it would work as Jon expected.
Above: Next, some colour was added and rudimentary platforms were designed. Looking better all the time.



Finally the objects were attached, the panel added at the bottom, and just for good measure a white line drawn around the screen to box it all in.

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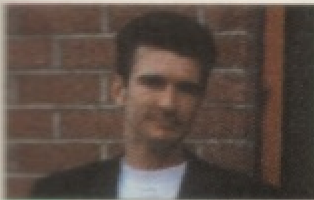










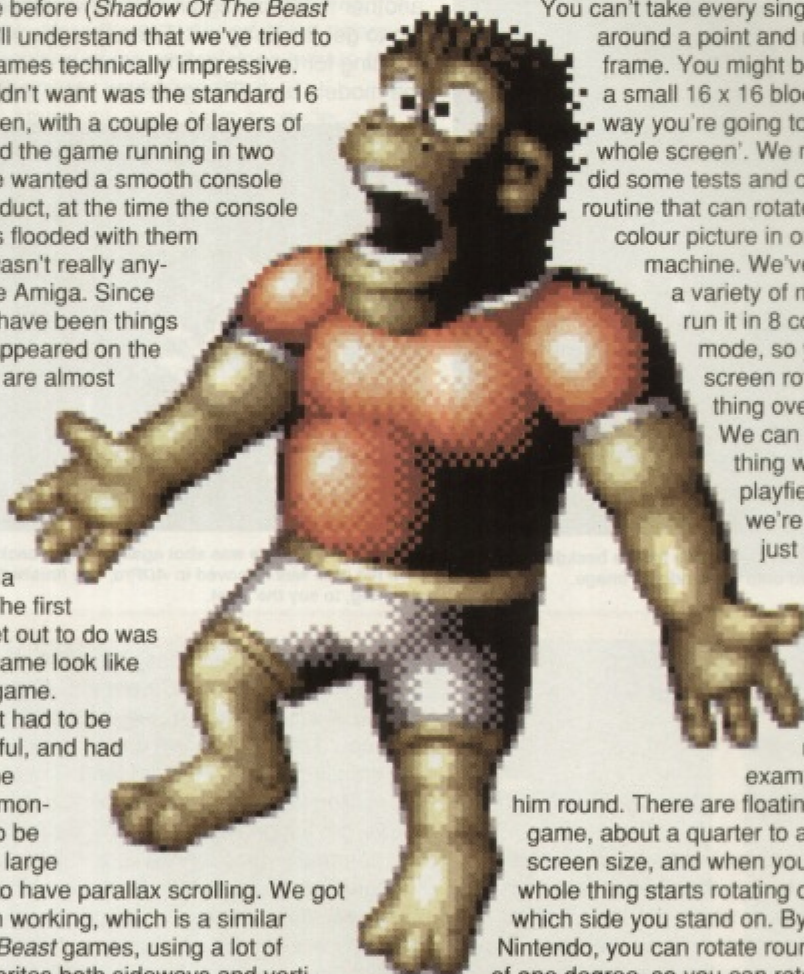


MARTIN EDMONDSON - REFLECTIONS

FINEST HOUR: Shadow of the Beast

Reflections have always been at the forefront of Amiga graphics. Not surprising really since the team, lead by strapping six footer Martin Edmondson, were responsible for the *Beast* games which wowed us all. Their latest game, *Brian The Lion*, is a console game in every respect, looking more at home on a SNES than an Amiga. Martin explains how this is more than simple coincidence. 'If you're familiar with the games we've done before (*Shadow Of The Beast 1,2,3*), you'll understand that we've tried to keep the games technically impressive. What we didn't want was the standard 16 colour screen, with a couple of layers of parallax and the game running in two frames. We wanted a smooth console looking product, at the time the console market was flooded with them but there wasn't really anything on the Amiga. Since then there have been things that have appeared on the Amiga that are almost there, but nothing that you could say "That could be running on a console". The first thing we set out to do was make the game look like a console game. Obviously it had to be very colourful, and had to run in one frame, the monsters had to be reasonably large and it had to have parallax scrolling. We got that system working, which is a similar one to the *Beast* games, using a lot of multiplex sprites both sideways and vertical and moving colour interrupts, but we basically took it a lot further than any of the *Beast* games. You can have over 180 colours on screen at once through colour interrupts, although the game is basically running in 16 colour mode.

'Another thing we wanted to do was copy the fast scrolling in games such as *Sonic*. Games that have been done before have had a maximum speed of 2 pixels at a time, but we wanted to do it a lot faster. The problem with doing high speed scrolling is that if you want to scroll 16 pixels at a time, every frame, then you have more stuff to plant at the side of the screen.'



'We then looked at a lot of the games on the SNES, things like rotation, zooming, expanding and de-resing. The whole Mode 7 thing, which at the time was getting a lot of publicity. One of the technical guys who works with us, Mike Troughton, looked at it and thought "there has to be a way to do it". It's obvious you can't do it mathematically. You can't take every single pixel, rotate it around a point and replant it in one frame. You might be able to do it with a small 16 x 16 block, but there's no way you're going to be able to do a whole screen'. We messed around, did some tests and came up with a routine that can rotate an entire 16 colour picture in one frame on any machine. We've got it working in a variety of modes. You can run it in 8 colour dual playfield mode, so you can have one screen rotating with something overlaid on top of it. We can then do something with the other playfield. In the game, we're doing more than just sticking on the title screen. We want to show that we can use it in the game for other things, so we can take a monster, for example, and rotate him round. There are floating platforms in the game, about a quarter to a third of the screen size, and when you land on it the whole thing starts rotating depending on which side you stand on. By the way, on the Nintendo, you can rotate round in increments of one degree, so you can rotate through 360 positions. With our system, you can rotate through 512 to 1024, which looks much smoother. It's also a much cleaner rotation than the SNES. If you randomly pick an angle, and do the same on the SNES, it'll look much cleaner on the Amiga. The one on the Nintendo is broken apart, and there are bits hanging off it.'

Brian The Lion really has to be seen to be believed, but if it gets the recognition it deserves, then the console days are numbered.

THOSE EFFECTS IN FULL

Unlike *Bob's Bad Day*, *Brian The Lion* was actually written to emulate Mode 7 on the Super Nintendo. Just in case you aren't too sure what that entails, here's a selection of just some of the things you can expect to see.

DERES

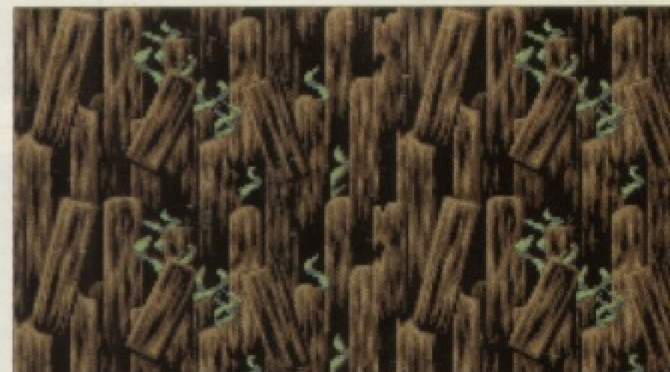
This is the kind of effect that the BBC has been using for years. Running in 50 frames a second and plotting up to sixteen thousand polygons in a frame, this fades out the screen by increasing the size of the pixels while keeping the picture the same size.

CURVED PERSPECTIVE TUBEROOM

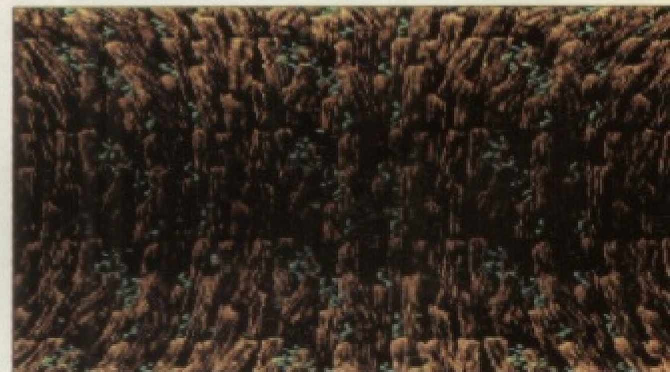
This takes a standard IFF pattern, and maps it onto the inside of a tube, which then rolls along in 50 frames a second at various speeds behind the main action. As the rotation is performed almost exclusively by the copper, it uses very little processor time.

ROTATION

One of the most impressive effects, Rotation takes any size block from 16 x 16 to a full screen and rotates it through a resolution of 1024 degrees, which is about three times more than anything the SNES can do. Unfortunately I'm not allowed to tell you how, but rest assured that it isn't an animation.



By clever use of the copper, Reflections can take a simple texture like this...



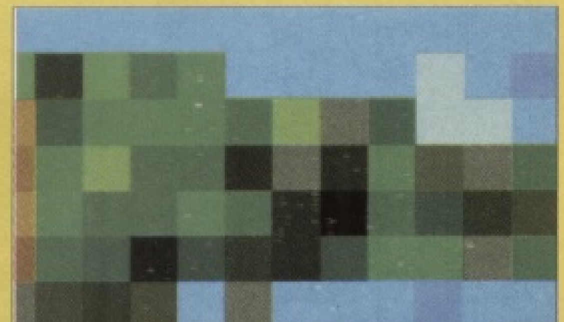
And turn it into something like this!



This the map of *Brian the Lion*. Where everyone else would just fade out, Reflections. ..



...gradually increase the size of the pixels to produce a more blocky look...



...eventually turning it into a completely de-resed mess!

» STUART SARGAISSON - PSYGNOSIS

FINEST HOUR: Microcosm

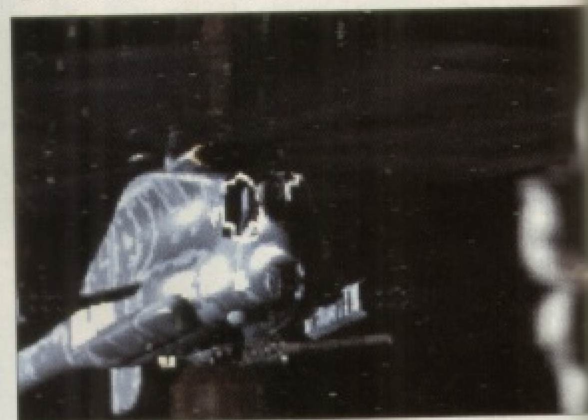




The intro sequence is just one of the visual masterpieces to be found within the game. First all the models for the backdrops and vehicles were created on Silicon Graphics, and then actors were filmed in S-VHS and matted onto the rendered image.

Surely one of the most talked about games of the last couple of years is *Microcosm*. A staggering journey through the human body, the game takes a lone fighter pilot through the caverns of the mind and the bowels of a human being. Stuart Sargaisson gives the background info.

'*Microcosm* came about over a year and a half ago. It was a game on a Japanese console called the FM Towns. It had lots of hardware sprites and was 2086 based, so I thought I could convert it to the Amiga. We used to use *Sculpt 4D*, but Psygnosis brought in some Silicon Graphics workstations because *Sculpt* just wasn't up to it. Because of the rendering time involved, and the complexity of the models, we were better off using *Soft Image*. Initially we had two graphic artists working on it, but by the end of the project we had another four working on linked machines, just trying to get the thing out. Even then we were still pushing for time to get the renders done and to get the models built. The graphics have really come a



All the video footage was shot against a blue backdrop, and then the blue was removed in *ADPro*. The finished result is stunning, to say the least.

PETER MOLYNEUX - BULLFROG

FINEST HOUR: Syndicate

Just feast your eyes on the visuals on this page. Admit it, they just don't look like they come from games, but they do. These are screenshots taken from actual sequences for two of Bullfrog's latest and greatest extravaganzas, *Magic Carpet* and *Creation*. To say they are several steps ahead of anything else the company has done is an understatement on a par with "Tony Horgan likes to mess about with OctaMED from time to time".

For the millions who haven't actually seen Magic Carpet, I asked Peter to explain exactly what their new system does.

'There are several distinct things going on at any one time. The first thing is that the landscape is created out of polygons, which are then texture mapped and gaurad shaded. Then the whole thing is depth cued, with foggy effects to give that fogged out feeling. We do that for two reasons. One is that it looks quite nice and two, because it means that you don't have to draw to the end of the horizon, which obviously would take up a long time. The polygon landscape is fractally created, so the worlds in *Magic Carpet* and *Creation* are infinite. It actually generates the world as you fly. You could really fly to the end of the universe without crossing the same bit of land. There are over four billion landscape variations. On top of that, we've got things like mountains, seas, tides where the sea really rises up, we've got light sourcing on the landscape, so as the day moves on you'll see shadows move across the landscape. All the tidal patterns work in the correct lunar cycle, so every twenty eight days you have a high tide and a low tide. What we've tried to do is create this ultra-realistic world that we can sit the game in.'

'It's all very well creating realistic-looking graphics, but the more realistic things become, the more you expect out of it. If you see a shadow on the ground, and you see the sun overhead you're going to think "That's a bit strange" The more realistic we get, the more people are going to demand of the stuff. If they can see a sea lapping against the shore, they'll wonder why there isn't a tide. A game should be more than just visuals, they should create whole environments and whole worlds. That's what will make the difference in gameplay, that there are all these little bits that join together to form this huge software environment that's going to be the future of entertainment software.'

Some might think that this is too big a step to take at once. Isn't there always the pressure to try and match the console world?

'What we did feel pressurised by was the fact that machines like the 3DO and the PC are here, or just around the corner, and as such we needed



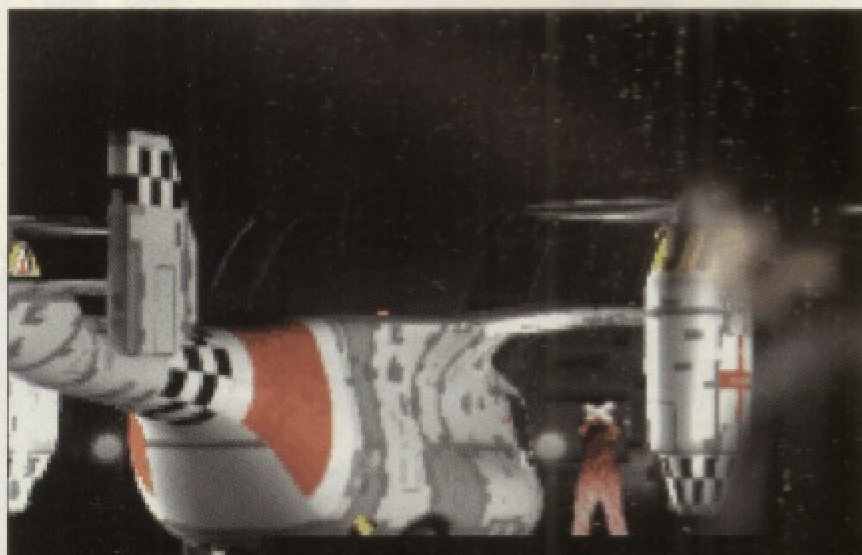
long way from the early days, and you can see the progression in the game. The stuff in level one is just us learning how to use it, and then the intros and extra levels were created after we had figured out how to use it, and you can see the effects like Camera Blur which aren't there at the start.'

But why spend so much time rendering anyway?

'The idea initially was CD as interactive film. To do that, you have to have cinema quality images, but you can't get that during the game. But you can have it during cuts in the game, so you have a body of gameplay, then a few seconds of a film that tells you the story of the game itself. It's not truly interactive obviously, but it does give a cinematic feel to the game.'

Microcosm *has been perfectly timed. As the whole world is waking to the idea of rendering, it's a game that is already years ahead of the opposition. With that kind of forward thinking, where does Stuart see the game world heading?*

'In the far future you won't have to render anything, because everything will render inside the game, which will be definitely more interactive. That is obviously the future for that kind of game. The best format for that sort of thing is a graphic adventure, but it takes so long now to put out a good game. We're talking a minimum of two years really. We'll be seeing things like *Indiana Jones* with better graphics, as that kind of game is not actually simple to code, but most of the thought goes into the actual design and that's where the time will go. With CD-ROM you've got 500 Megs of data which you can give over to film. The days are long gone when you could knock up a game in your bedroom.'

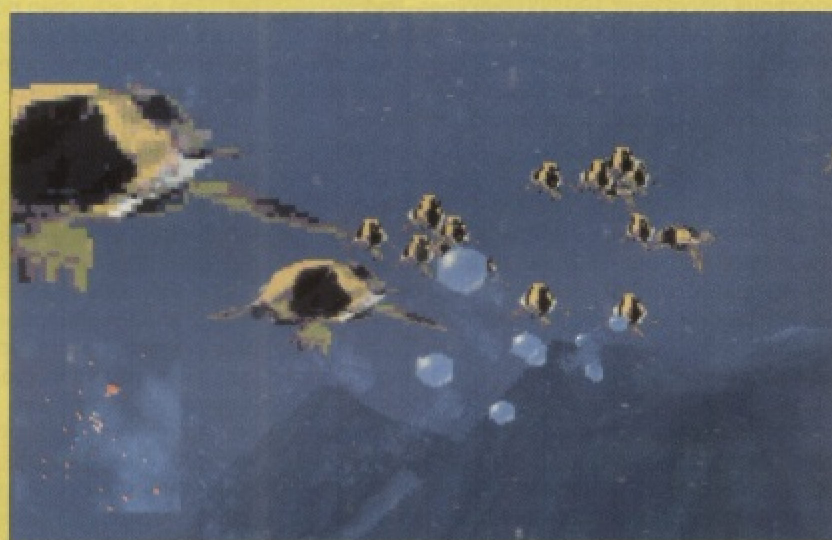


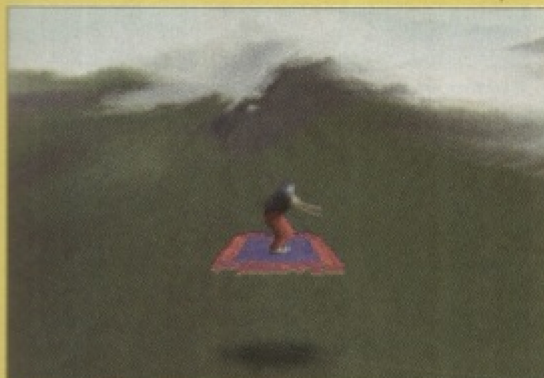
Here we can clearly see how distance focusing has been used to give real depth to the image. At this part of the intro, the Medical Helicopter has just landed, while one of the Cybertech operatives (in the near picture, out of focus) looks on.



A second later, and the focus shifts to the near ground, leaving the helicopter out of focus and 'Mr. Cool' clearly visible. Techniques like these are the way forward for rendered animation, as the computer world moves closer and closer to the film industry. With Steven Speilberg already working on a game from Lucas Arts, it shouldn't be too long before film directors and software teams working together will be as normal as a programmer working with a graphic artist.







to make sure that we were in the forefront of the new technology that was coming about. Not only for the machines that are out now, but for the machines that will be out in the future. Obviously that's not just a visual thing, that's a game thing as well."

Surely with a system this ambitious, there must have been a few things that you wanted to do, but couldn't, isn't there?

'There are loads of things that we can do, but aren't able to do because machines aren't powerful enough yet. The good thing is that we have all these routines and are able to do all these worlds. Our current sprite routine, that poor old sad thing that has been around since *Populous,* has now been updated so that it has about fifty different modes. You can have sprites that are transparent, rotated, sprites that use translucency, merging, auring...the number of things that just a poor old sprite can do is amazing! That's without all the vector stuff as well.'

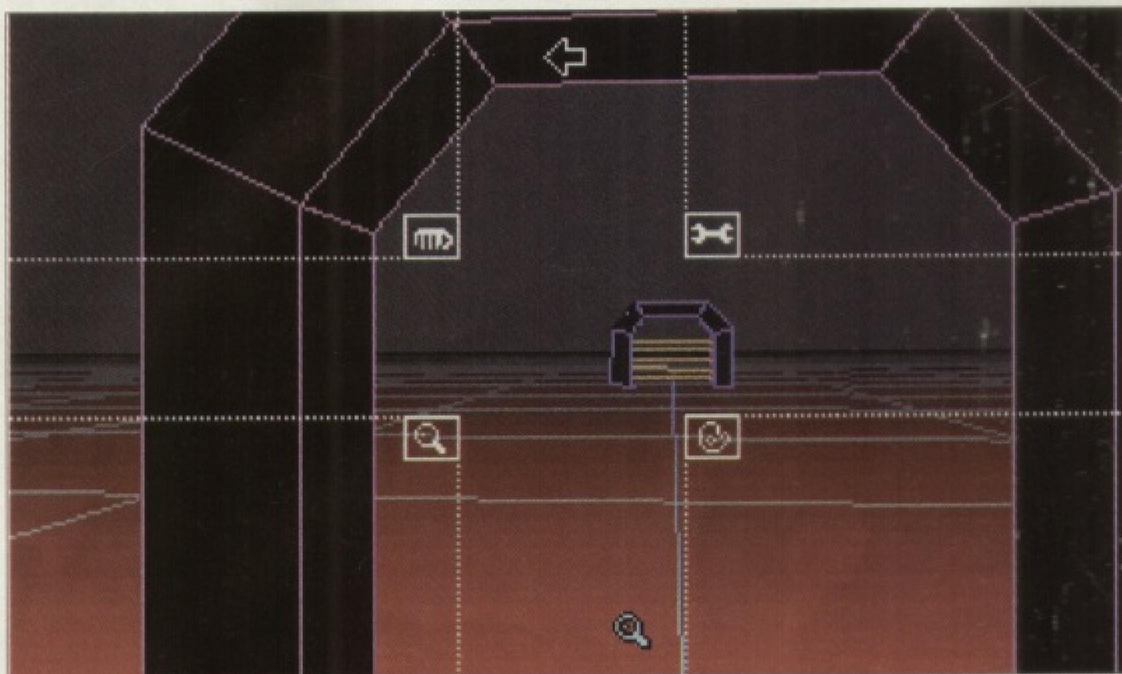
The big question, as always, is where does the future of Amiga graphics lie? We've seen what can be done now, but how many more steps are there?

'A lot of that is up to Commodore. A lot of the stuff we've got now can do the stuff we want. We can draw a transparent sprite on the Amiga, a really nice thing to have, but what we can't do is implement that with any great speed. On other machines, like the PC, you can do it and you can do it at speed. So what Commodore have to do is continue to enhance their machines and come out with more and more powerful computers to stay in the game.' »



RICK YAPP-ODE

FINEST HOUR: Team Yankee



Cyberspace is one game that I am extremely excited about. Between that and *Frontier* I'm not going to be able to find any time to do Christmas shopping this year (sorry Mum, but I was busy researching!). A million people live in an enormous city of over 100,000 buildings, and you're plonked right in the middle of it all. Making something like that look varied is enough of a challenge for any graphic artist, so I dragged head honcho Rick towards a tape recorder to find out how Oxford Digital Enterprise (ODE) are carrying it off. 'It has its origins in the dim and distant past, I suppose. *Sleeping Gods Lie* was our first foray into 3D graphics, and it was a combination of vectors and resized bitmaps. That was a fairly crude system compared to what we have with *Cyberspace*, but that progressed through *Team Yankee* – it was improved significantly for that – and *Pacific Islands*. Now it's been completely overhauled, to include a lot more primitive things like cylinders and spheres, and made to cope with a far higher number of polygons. We've also improved the 3D bitmap system significantly to allow us to have a far more complex 3D environment. One of the things we did was limit the game to internal views only. That modifies the maths and makes us able to produce highly complex rooms without compromising too much on speed. Of course, there's a limit to how much you can do on an Amiga."

With so many people churning out so many different 3D systems, it needs to be asked what makes ODE's system unique? 'Very few 3D systems actually combine polygons and bitmaps. There are reasons why they don't do that, but the main one is that it's quite complicated to do. We're really only using bitmaps for the heads, although we can use them as embellishments to the rooms to add style, but the heads are the main feature. We have to define the heads from 20 different angles. Different eyes, noses, mouths and hairstyles have to be designed from all those different views and made to fit together. It's actually very complex. What other 3D systems tend to do is have a mixture of polygons and bitmapped graphics, but they are doing a whole character as a bitmap, a bit like we did in *Sleeping God Lie*. That means you have very limited movement. They can just stomp around in their normal stomping routine, and there's not very much they can do, but because we are using polygons for the actual characters themselves we can animate them. We can move any arm anywhere that we like, and it's only the head that is limited – all we can do is turn it.'

It sure sounds like a lot of work. Would I sound stupid if I asked why not just use a texture map? 'Texture mapping throws up all kinds of problems.' *OK, so I would sound stupid.* 'If you texture map, you are texture mapping onto polygons so you have to start off with a shape that is fundamental – such as a cylinder or cube or any simple collection of polygons. You throw them together and map onto that, and it always looks like you've mapped onto some polygons. It never looks realistic. Starting off with a bitmap means that you can design it just the way you want it to look. The reason why we chose that method for the heads is because people are so individual and it enables us to give them a lot more style that we couldn't really achieve using polygons. Polygon characters are great, but they always look like computer generated characters, and we wanted something a bit more real than that.'

With the system constantly moving, how much further do Yapp's mob hope to take it? 'Texture mapping is something we've looked at doing. We can actually do it, but we're probably not going to use it on *Cyberspace 1* because we want to make sure that the speed is absolutely right and everything flows fairly smartly. With *Cyberspace 2*, obviously, we can ensure that the lowest spec machine is an A1200 and texture mapping then becomes quite simple. We have it running on a Beta already, and that does add something in certain cases. We're not too worried about it for walls and things because walls are normally a single colour anyway, but having the ability to do that will improve it.'



A selection of the hairstyles available for the people in the game.



Along with hairstyles, there are loads of different mouths



Now we add the eyes...



...and we put it all together in the *Cyberspace* head generator



After that, we build the body for our new character



Then we animate Bob, as he's come to be known.

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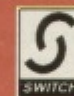
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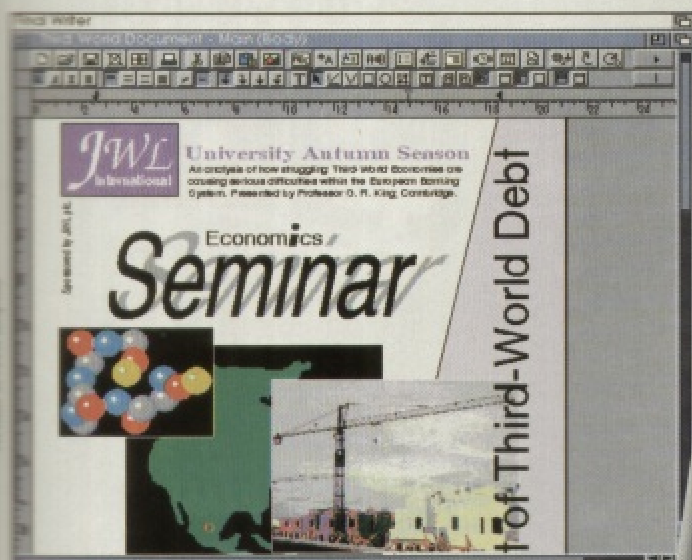
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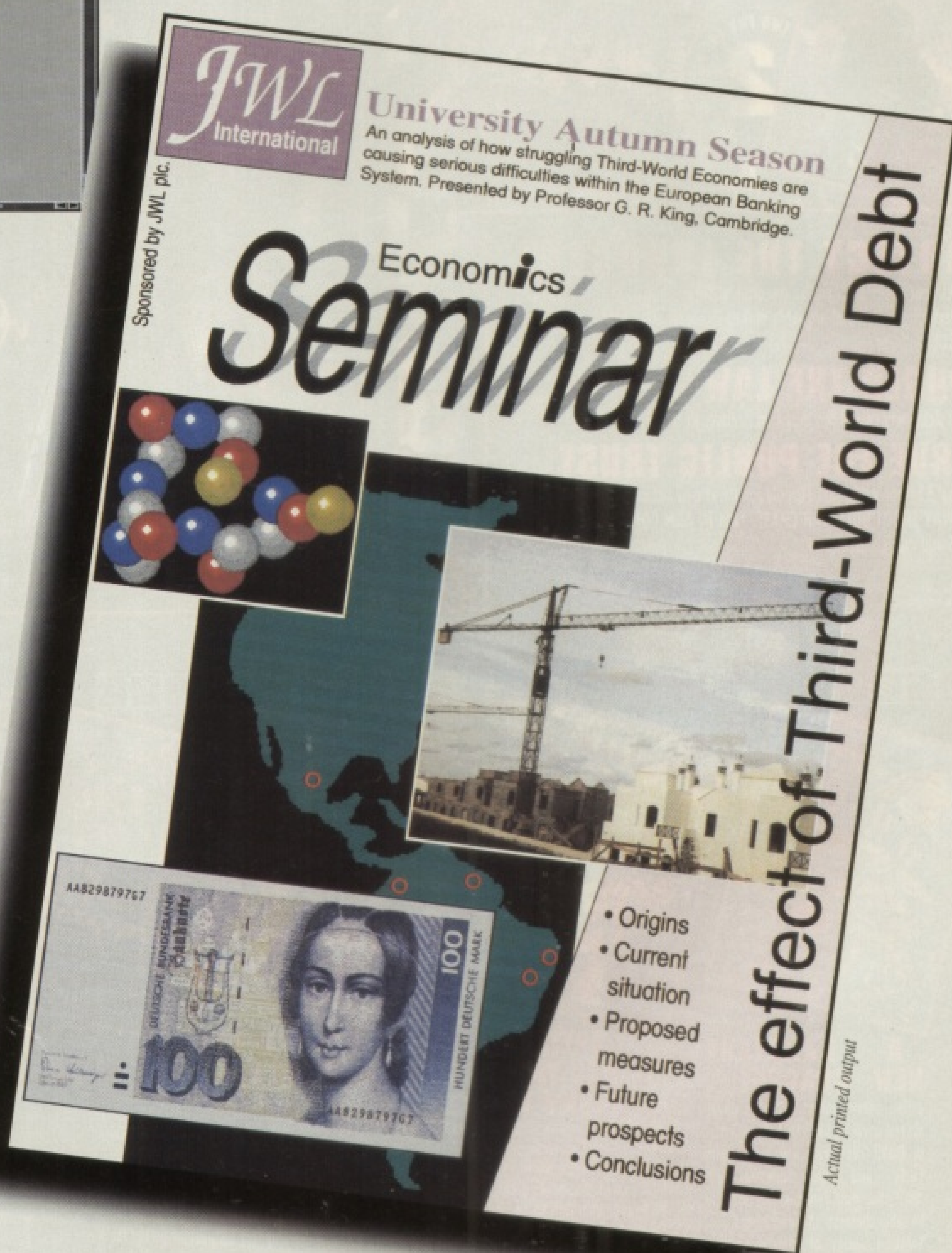




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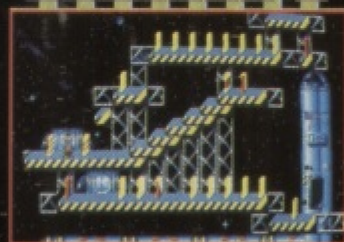
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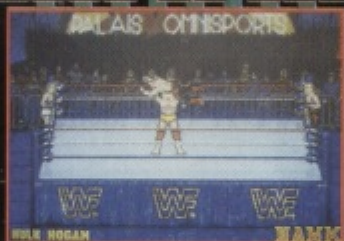
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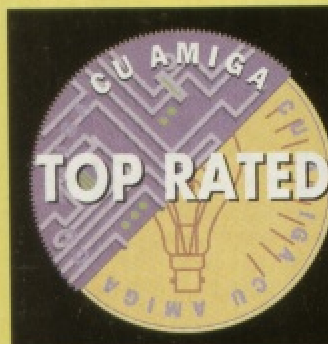
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GET SERIOUS

You are now entering the Techie Zone, bursting at the seams with reviews and features of all that's new in the "serious" world of the Amiga



The CU AMIGA top rated accolade for non-games products scoring over 90%. They will definitely be worth the money and are likely to act as a benchmark for future releases.

AMINET CD-ROM



This is one of the hundreds of images on the Walnut Creek CD-ROM. It just happens to be from the Babylon 5 US TV show.

If you are lucky enough to be able to while away your days as a student, you have probably been granted access to your university's computing facilities. Practically all universities are now part of the international electronic mail network, Internet, and usually everyone is allowed to explore the system at their leisure. Alternatively, many BBS systems (commercial and hobby-based) also provide a gateway into the Net. One of the most popular areas of Internet is the Aminet section, where Amiga owners across the world gather and spread news, files, and reasons why they hate Atari Falcon owners. The files section is huge and incorporates many hundreds of megabytes of programs, all either public domain, shareware or in demo form (also given the unfortunate name of 'crippleware'). An American company by the name of Walnut Creek have gathered together the Aminet collection, and jumped on top of it until it has been squeezed onto a single Compact Disc ROM.

When you slot into your ROM drive, you'll be amazed: there are literally thousands of Amiga programs here! The collection is split into sections: comms software, games, demos, sound, graphics, utilities and so on. Each section is further divided, so for example DEMOS contains demos of commercial software, slideshows, disk magazines as well as hundreds of the top-notch scrolly-message, astounding graphics Amiga demos we all know and love.

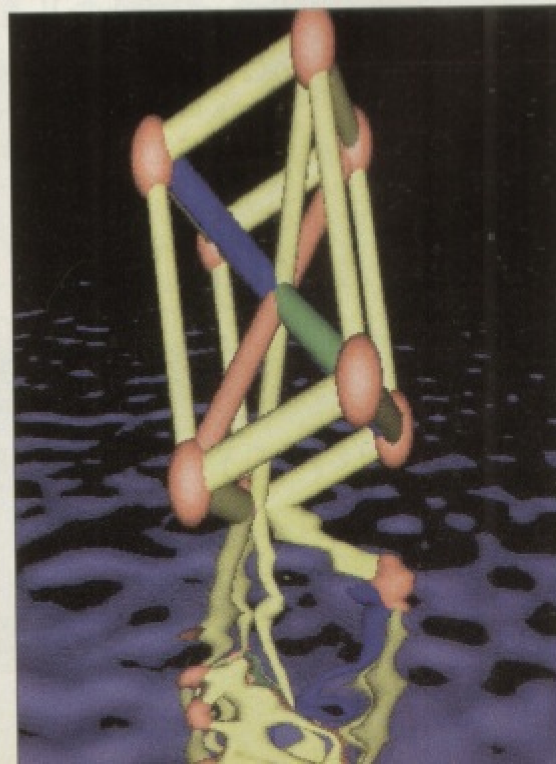
It would be impossible to list all the available programs – it would take up the entire magazine. Likewise it would probably take a year to listen to all the soundtracker songs, watch all the demos, install all the utilities, play all the games and learn the programming languages. There is so much, you are guaranteed to find something new each time you look. Many times I've heard of some PD software, and have been ready to order it from a library before finding it lurking on the disk. Here are some of the highlights I've found so far: some huge Eric Schwartz animations, hundreds of ray-traced pictures, an Imagine tutorial, a complete C/C++compiler, a Star Castle clone, a Wolfenstein 3D look-alike, some MPEG animations and viewers, megabytes of weird and wonderful sound samples, an AGA-Chess program, some great new Workbench looks, hundreds of icons, tons of source code, some hardware projects, AMOS utilities and the list goes on...

Practically all of the programs on this CD are archived with Lha or DMS to save space, which means you can't simply click-and-run – you will need to unarchive them first. Although the required programs are on the disk, the lack of instructions or a graphical user interface means that complete novices will have problems. I find the best way to locate a program is to load the index into *Cygnus Ed*, and use the lightning fast Search option.

This is a disk for the Amiga enthusiast, and if that term includes you, you should buy it immediately. It's like having unlimited free on-line access to one of the best bulletin boards in the world.

87%

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More abstract computer art to watch, as you listen to hours of sound-tracker tunes and excellent samples.

STAKKER EUROTECHNO – VIDEO REVIEW

When Golden Wonder used clips of the excellent Stakker Eurotechno video for their Pot Noodle advert, they were forced to slow it down for health reasons, but you can't beat the full speed original.

A few years ago, before the recent expansion in computer generated techno videos, Stakker released a ground-breaking acid video of their own. Now that the rest of the world seems to be catching up, Stakker have given you another opportunity to get your hands on the original item.

Unlike most of the current rave videos, Stakker Eurotechno is right in your face from start to finish. It's only 20 minutes long, but it hits you like a ten ton sledge hammer. All of the visuals are set to a series of constantly strobing Max Headroom-style backdrops. Most of the focus is on the spinning gyrating abstract 3D objects in the foreground. The speed of the whole thing sets it apart from anything else that's around at the moment, and there's not a fractal in sight!

The excellent Humanoid stomping acid soundtrack comes from a pair who now release weird stuff under a number of guises, currently best known as Future Sound of London. The video bods at Stakker are working on another video that is expected to get its release early in '94. Rumour has it that a collaboration is on the cards with Warp Records, and hopefully The Aphex Twin. Now that could be something worth waiting for.

Stakker Eurotechno is available from most good video stores, priced at £10.99. 86%

X-MIX 1– VIDEO REVIEW

Of all these cyberdelic videos, the 3-LUX series is a personal favourite. X-MIX 1 is the first in a new series from the same stable, namely the Frankfurt-based Studio K7. The 3-LUX stuff is minimal in the best possible way. Whereas some video producers are going mad on using every effect imaginable, and filling the 60 minutes with non-stop shiny ray-traced balls, 3-LUX seems to pay more attention to the simpler effects. The same is true of X-Mix 1, although not quite to the same extent.

It's at its best when the soundtrack and graphics gel, like the sequence that has you flying around a circle of planets, interspersed with Olympic torch kind of things, as the DJ pushes up the pitch controller on a particularly atmospheric record. This, and plenty more of the video, was created with 24-bit equipped Amigas.

I like K7's policy when it comes to the soundtracks. Instead of getting a single artist to supply the noises, they draught in a choice selection of dancefloor-friendly records, and get a top notch DJ to spin them into one long evolving backdrop to the visuals. Apart from the truly nasty opening track (which sounds like a two year-old playing with a badly tuned piano), the music is spot on, including tracks like "It's a Gas" and plenty of contributions from Cosmic Baby. The tracks are also available on the X-Mix 1 vinyl, cassette and CD album.

The excellent soundtrack, combined with crystal clear graphics that are just that bit more mysterious than the rest, make this a top video to add to your collection. Highly recommended for parties, nights in, nights out, breakfast, tea, dinner...

Available from all good video stockists, priced at £10.99. 90%



With Picasso II and *TVPaint Junior*, you too could create masterpieces like this, but without having to mess with yucky oil paints.

CU AMIGA TOP RATED

Picasso II

Jeff Walker always wanted to dabble in the arts, but felt he didn't have the talent. Now with Picasso II, he can whip up 'The Scream' in no time. Well, almost.

In the April and September issues of CU AMIGA we sung the praises of Retina, the first low-cost 24-bit graphics board for the Amiga. Now there's a lower cost board, Picasso II, and already there is bitter rivalry between the two manufacturers, each claiming that their board is better.

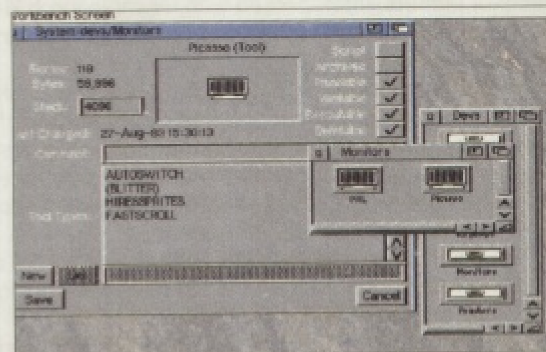
The truth is that there is little to choose between them. They work differently, they have different specifications, but the end result – what you can do with them and what you see on the screen – is almost exactly the same. Excellent.

Probably the most important difference between Picasso II and Retina is the setting up process. Retina comes with a skimpy and confusing manual that doesn't tell you all you need to know; consequently it is a little awkward to get it up and running unless you are experienced with setting up graphics boards. Picasso II, on the other hand, is a doddle. The manual is superb, but the software is so intuitive that you won't be reaching for it that often.

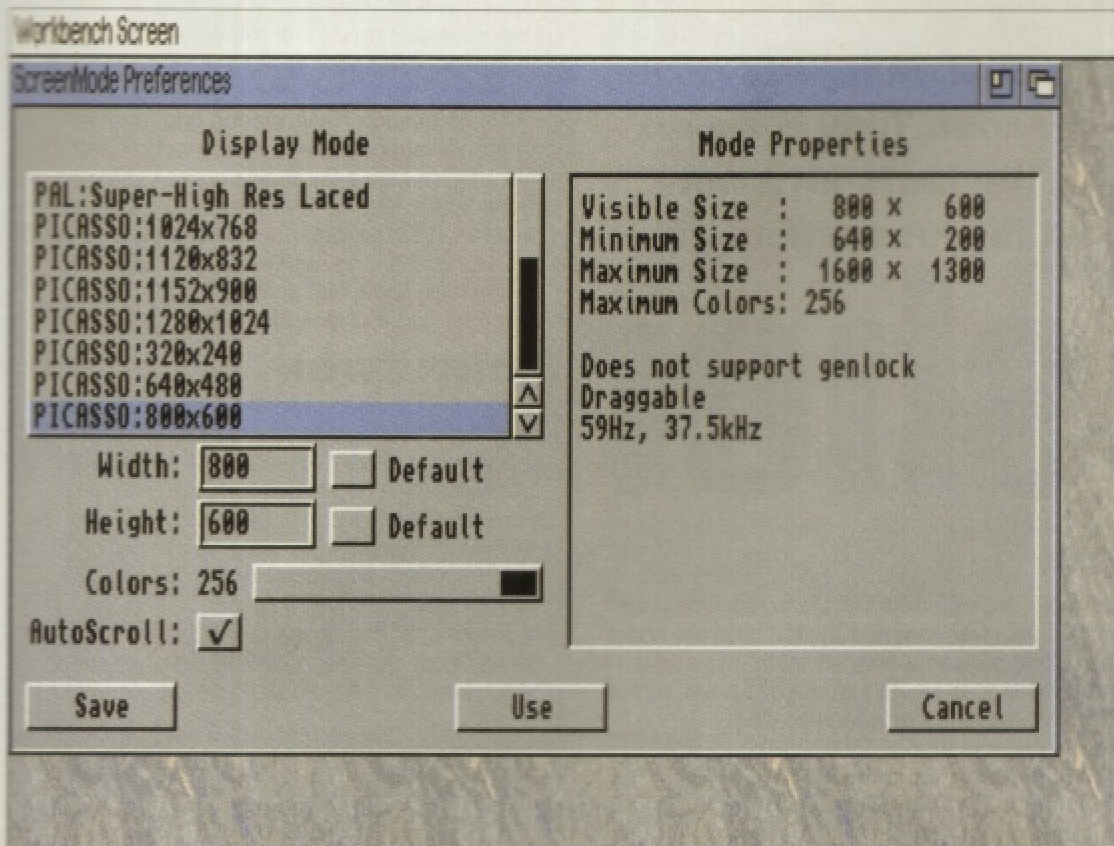
After fitting the board into any available Zorro II or III slot (Workbench 2 or better), the Amiga's video output is connected to the Picasso II board with a supplied lead, and your monitor plugs into the Picasso's video output. This neat arrangement means that, if necessary, the standard Amiga video output can be switched to, literally at the press of a key. It also means that any software that doesn't want to play ball nicely with Picasso – *DeluxePaint* being the main culprit, but also anything that has been written in AMOS – can use the standard Amiga output instead. All this on the one monitor. The review software supported only multiscan monitors, but the developers have just released new software that enables 1084 monitors, and similar, to be used in up to 640 by 512 pixels in 16.8 million colours.

The standard Commodore Install program painlessly guides you through installing the software on to your hard drive, at the end of which you reboot the machine to send Picasso into action, although at this stage you will still be looking at the standard Amiga display.

So your first stop is the standard Workbench Screenmodes preferences program where a number of new screen modes will have been added to the list. The new screen modes available to you will depend on the quality of your monitor, but all the 14inch displays will have the popular 800 by 600 mode available. The maximum screen mode is 1280 by 1024. How many colours you can display in these screen modes will depend on whether you have 1Mb or 2Mb of video RAM on the Picasso board. Best go for



Upon installation a new icon is dumped in your Devs/Monitors drawer. The BLITTER tool type enables you to use either the Picasso on- board blitter or the Amiga's one.



Depending on the scan rate of your monitor, several new screen modes will be added to the Amiga's standard database. On 14in monitor's, 800x600 is probably the best choice.



Ah, if only Picasso I had had a Picasso II...?

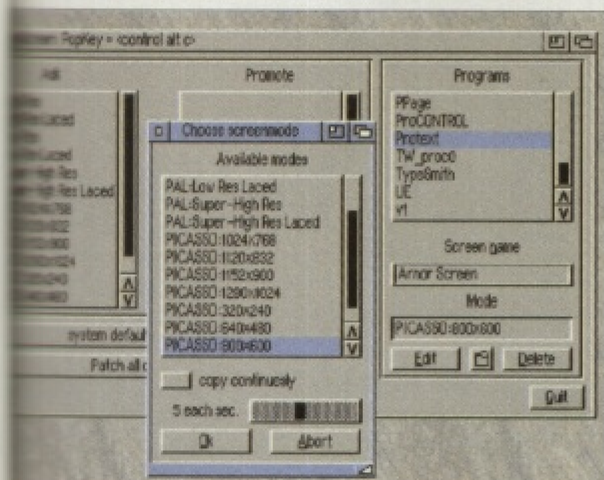
2Mb if you want large, 16.8 million colour displays from programs that have Picasso support, but of course you cannot have more colours on the Workbench or any other program's standard screen than your Kickstart chip will allow. Or to put it another way, Picasso II will not turn your Amiga 1500 into an AGA machine.

To switch to the Picasso display you simply select one of its screen modes and hit the Save button. The screen will go haywire for a split second, and then you'll get the Workbench back. You'll probably have to twiddle a few knobs to get the new screen mode to fit the display properly.

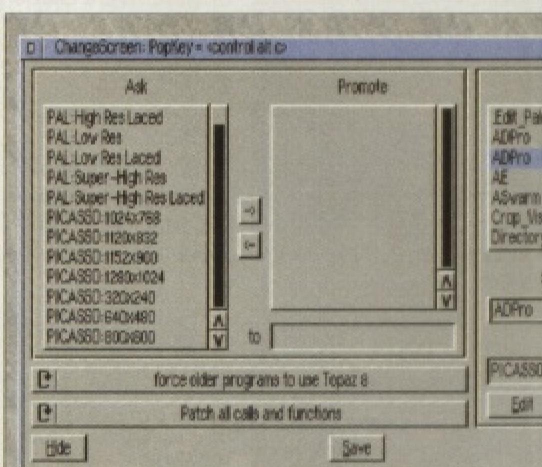
The installation process will have dropped a ChangeScreen program into your WBStartup drawer. The job of this program is to continuously watch for any new standard Amiga screen that wants to open, and then put up a requestor asking what you want to do with this new screen. Normally you will want to promote that screen to a Picasso screen mode, and this job is achieved quickly and simply by clicking a button. Once a screen has been promoted its name is remembered and it will be automatically promoted the next time it wants to open. If an application happens to be one of those programs that opens lots and lots of screens, then a wildcard "#?" can be entered as a screen name for an application, which instructs ChangeScreen to automatically promote all screens opened by the named program to the selected Picasso screen mode. ChangeScreen also contains options to automatically promote any standard Amiga screen mode to any Picasso screen mode, thus enabling ChangeScreen to do all the work for you. But after shelling out a few hundred quid you'll probably want to do it manually for a while, just so you feel you are getting your money's worth.

Because Picasso II has its own blitter it is able to persuade well-written software that its own on-board memory is chip memory, thus speeding up screen refresh rates and releasing your Amiga's chip memory for other use. Not all software will play this game, but this doesn't mean such software won't run, it will simply carry on as normal, using the Amiga's chip memory.

Apart from the aforementioned *DeluxePaint*, the only other software I tried that wasn't completely happy with Picasso's presence was *ProPage 4.1*, with which I had trouble printing and some very strange display problems that VillageTronics, the developers, are laying at *ProPage*'s feet. Fair enough, but if you use *ProPage* a lot you'll be better of with Retina, which works perfectly with Gold Disk software. Apart from that, Picasso II is a deeply wonderful piece of kit, and your buying decision may very well be based on the fact that a low-cost Junior version of the excellent *TVPaint* 24-bit painting package is available for Picasso II (from Blittersoft), but not for Retina.



The screen mode of any program in the list can be changed at any time to any other in the database.



The ChangeScreen program controls hows screen will be promoted. By moving modes from the Ask list to the Promote list the process can be automated.

PICASSO II £299.95

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EASE OF USE 95%
Simple software and a good manual makes Picasso II a doddle to set-up and use.

VALUE FOR MONEY 98%
If you count the extra £50 for TVPaint Junior, Picasso II costs about the same as the rival Retina board which comes with VDPaint free.

EFFECTIVENESS 93%
It'll be even better when the S-VHS encoder arrives.

FLEXIBILITY 84%
Software support for Picasso II is limited at the moment, but that will soon change.

INNOVATION 85%
The on-board blitter is faster than the Amigas.

"This is perfect for graphics and DTP work."

OVERALL 92%

The Publisher

Desktop publishing has never been cheaper. Tony Horgan lays out the facts on a new low-cost layout system.

In the past, high prices pushed desktop publishing way out of the reach of the hobbyist, but now there's something available for any-would-be editor. *The Publisher* has now been re-released at the far more affordable price of £29.95, bringing it within reach of just about anybody who wants to get into desktop publishing on the Amiga.

The Publisher comes on three disks and, as you might expect, for best reults it is recommended for use with a hard drive. What you wouldn't expect is the ludicrously-complicated installation routine that you're forced to go through before you can use the program. Strangely enough, this applies to floppy users too. If the developers wanted to keep the number of disks in the package to a minimum, then they could have simply archived the original disks with something easy to use, like DMS for example. Or why not employ a simple "Click to install" icon system that does it all for you?

Okay, so you've finally got the thing up and running. The first thing most people do is to look for a demo file somewhere on the disks, just to see what's possible. Unfortunately, there aren't any demo files at all. This is a shame, because you're then left to create everything from scratch, without being able to revert to an example to see how a particular feature works.

INTUITIVE

Working with Apple Macs on a day-to-day basis, as we do at CU AMIGA, it's easy to dismiss any other DTP system as inferior, but beneath the rather unfriendly exterior, *The Publisher* is actually quite powerful (for a cheap Amiga DTP program). The standard DTP system with multiple pointer modes is very convenienent. For example, clicking on a certain area of the page whilst in cursor mode will have a different effect to clicking the same area whilst in text mode. The interface is also intuitive enough to make formatting text, resizing boxes and so on another simple affair.

When it comes to features, there are enough to satisfy most modest publishing projects, such as creating fanzines, flyers, reports and so on, although compatibility with PC and Mac DTP systems is limited. Supported graphics formats are IFF, EPS, AEPS, DR2D and Encapsulated PostScript. This means that you can import anything you've created with last month's *Expert Draw* coverdisk. If you want to be able to use images from sources other than the Amiga (which could include TIFF, GIF, TARGA, JPEG, PICT or any of the other many picture formats currently used), a conversion program like *Art Department Professional* would cure any compatibility problems.

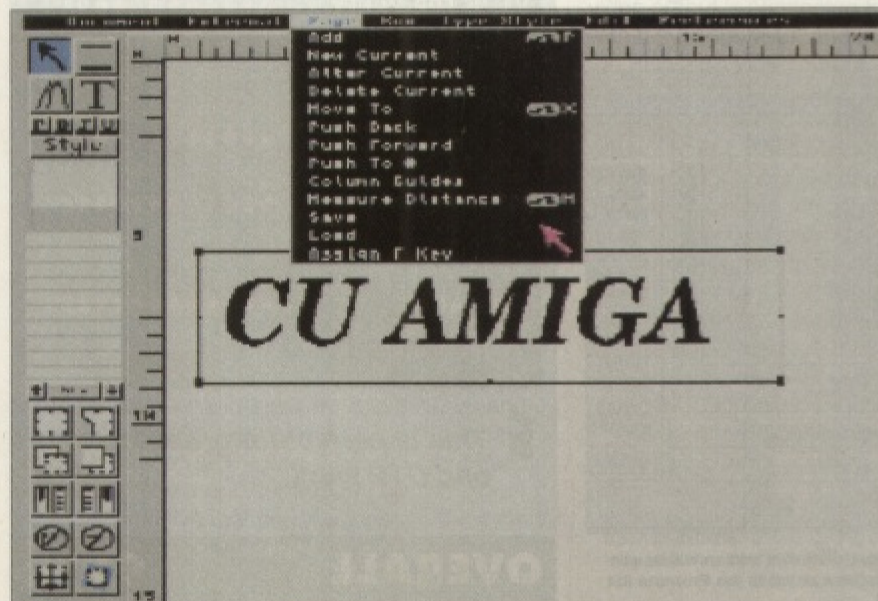
FONTS

Although all text and graphics are placed in boxes, it's still possible to flow text around the curved outline of an image, so you're not limited to strict squared-up layouts. As for fonts, there are 31 fonts included with the package, although that includes multiples of the same font in bold, italics and so on. There are actually ten typefaces in all: Palatino, Zapf Dingbats, Zapf Chancery, Helvetica, New Century Schoolbook, Times, Bookman, Courier, Avant Garde and Symbol. There are limited structured drawing tools included, so if you suddenly feel the need to create some arty circles, scribble a few doodles, or construct a logo, you can do it on the spot.

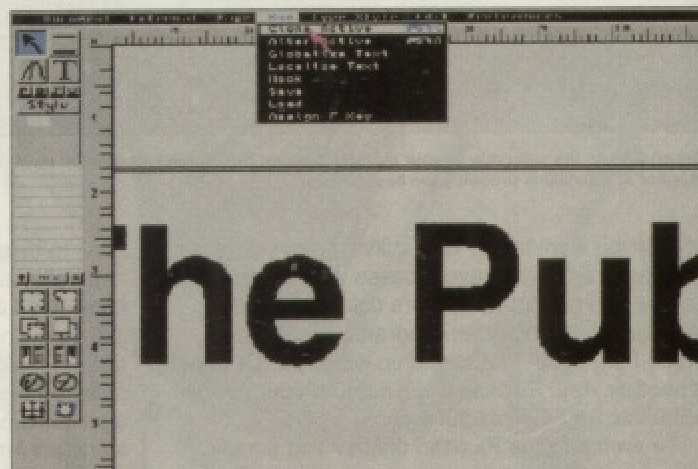
As with any well-developed DTP package, *The Publisher* eats up a lot of memory. To keep things running smoothly, it uses its own virtual memory system. This uses hard or floppy disk space as pseudo RAM, storing and reading data on the current document as you work. On top of this, there's also a lot of disk access involved in routine page layout. Try running it from floppies on a machine without much RAM, and you could be in for some long nights. However, running from a hard drive with some extra RAM, you shouldn't find that lack of speed is a problem.

CONCLUSION

Although it's good to see the high-end DTP packages like *Professional Page* forging ahead, it's also reassuring to know that there's still something for those who can't afford to splash out three-figure sums on a single piece of software. *The Publisher* may not sing, dance and make you breakfast in bed, but it's got enough up its sleeve to handle most of your DTP needs, so long as you don't want to lay out anything too spectacular or complex. It's not the most user-friendly option, but if you're on a tight budget, it's well worth checking out.



Decent DTP packages don't usually come cheap, but *The Publisher*, at under £30, gives everyone the ability to knock out impressive quality magazines, reports and flyers.



For a budget system, *The Publisher* packs quite a punch, with support for industry standards such as EPS and IFF graphics and PostScript files, with virtual memory for your bigger jobs.

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EASE OF USE 75%
Getting to grips with it can be tricky, but once you've mastered the basics it's not too awkward.

VALUE FOR MONEY 90%
By far the cheapest quality DTP package available.

EFFECTIVENESS 77%
Not immensely powerful, but good enough for small projects.

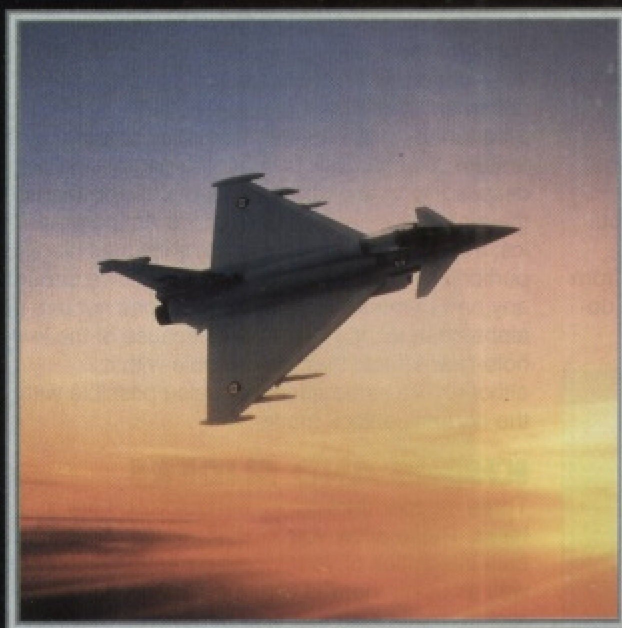
FLEXIBILITY 75%
Compatibility is the main problem, as with most Amiga DTP packages.

INNOVATION 80%
The main innovation is the very low price.

"Easily the best option for desktop publishers on a shoestring budget."

OVERALL 80%

TFX









"It's more than a straight flight sim:, D.I.D. have emulated multi-million dollar flight simulators. When you play TFX the first thing that hits you is the detail of the landscape... over seven million square km appears on screen, with hills, roads and mountains all in the right place." THE EDGE

"The graphic detail is quite superb, with stunning visuals and strong sense of image, TFX is quite often like watching a movie... when I first saw TFX my jaw dropped so far it took me 15 minutes to find it again! It's fast, good looking and fun." PC REVIEW

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GENLOCK 292

If your next-door neighbour's not publishing his own magazine or putting out records, he's probably beavering away on a rave video or alternative TV programme with an Amiga and a couple of black boxes. Genlock-up your daughters, here comes Tony Horgan!

Not so long ago, if you wanted to produce and release your own film, record, TV programme or video, there was no way you could just do it yourself. The cost of the equipment alone meant that such ideas were pure fantasy. Now you can control everything from your soundtrack to your visuals with your Amiga, along with the help of a few extra widgets. If video's your thing, the one essential widget your setup needs is a genlock. A couple of months back, we looked at a pair of budget offerings from Lola. This month it's the turn of Hama's more up-market 292 genlock.



If you're serious about video, you'll need a decent quality genlock that won't degrade your picture. The Hama 292 fits the bill, and it looks pretty sexy too.

BUILD QUALITY

The first thing you notice as you unpack the 292 genlock is the exceptional build quality. It's reassuringly solid, not exactly heavy, but nice and dense. Compared to some of the cheaper alternatives, this is a real luxury. It measures 22cms across and 26 cms deep, with the main control panel sitting about 2.5 cms above the desktop. Turn a few of the knobs, and the smooth stable action is a very pleasant surprise. Then there's the fader...a true "warp-factor-ten thrust controller" if ever I saw one. I don't know, all this excitement, and the thing isn't even plugged in yet.

BELLS AND WHISTLES

Let's get more specific then. The front panel has four buttons along the bottom: Amiga, Video, Key and Mix. Each has an LED to let you know which mode is currently selected. These control the output from the genlock. 'Amiga Mode' outputs just your Amiga graphics and 'Video' does the same with your video source. 'Mix' is the one that does the business. It overlays your Amiga graphics onto the video picture (see the 'What is Genlocking' panel for more details). Finally, we come to the 'Key' option. I'm sorry if this comes as a disappointment (because it did to me), but unfortunately, this isn't a chromakey or lumakey feature. What it does is invert the genlocking process, so instead of the live video showing through the alpha channel (colour 0) of the Amiga graphics, the alpha channel parts are shown as black portions over the video, which now shows through any part of the Amiga picture that does not use the alpha channel. It's called Key because of the keyhole-type effects that are possible with it, although the same effects are also possible with the normal genlock mode.

KNOBS AND SLIDERS

Three independent colour control knobs are at hand. These allow you to alter the red, green and blue intensities of your incoming Amiga signal. As well as using them to tweak the picture to suit your requirements, you can also perform on-the-spot colour cycling effects.

The far-right knob is the fader. This affects the level of the complete output signal, so when it's full up, you get a bright picture, and when it's down you get a black screen. The fader action is smooth enough that even the most cack-handed videographer could perform perfect fades.

Unlike the Lola Minigen Professional (CU AMIGA Oct 93), the fader won't let you alter the balance of the Amiga graphics on the video picture. This means that the Hama genlock won't let you perform the Tardis-type effects that are possible with the Lola model. On the other hand, the Lola genlock can't fade to black.

A connecting lead to the Amiga's video output is included with the genlock. This plugs into an identical D socket at the back of the genlock. Mounted on a horizontal panel at the rear are a couple of scart sockets: one for your video input (switchable between VHS and SVHS), and another for the combined video and Amiga output. The scart input can accept both composite and Y/C signals, and autoconfigures itself depending on the type of incoming signal. Putting these on a horizontal panel was a good idea, making them more accessible than they would have been at the back. There's also a 12 volt DC input in case there's not enough power coming from your Amiga.

PICTURE QUALITY

All the high tech gadgets would all be academic if the final picture quality wasn't up to scratch, but I'm pleased to say that it's excellent. Should you find that your Amiga graphics are over-saturated when you put them onto tape, you can easily compensate with the RGB knobs. Both the Amiga and video sources pass through without much degradation, and without having any particular colour overtones imposed on them.

It's a shame there is no chromakey included, which would have made it a video junkie's dream come true. As it stands, it's still a very tasty bit of kit. Anyone who needs professional quality genlocking should give it serious consideration.

WHAT IS GENLOCKING?

Genlocking is a simple method of mixing computer graphics and video together. Instead of merely fading the two images together, a genlock replaces any parts of the graphics drawn in the alpha channel (the background colour) with the video source. The result is that the graphics appear in front of the video, with the video showing through the gaps. This is often used to overlay titles onto video.

Chromakeying is a similar kind of effect to genlocking, but the video appears in front of the graphics, with the computer image showing through areas of a specific colour (usually blue). Chromakeying is the technique used on TV to put the weather man in front of his computer-generated map.

Lumakeying works in much the same way as chromakeying but it is sensitive to brightness levels rather than specific colours.

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EASE OF USE 90%
Simple to set up, and it's a pleasure to twiddle the knobs.

VALUE FOR MONEY 80%
There are some considerable cheaper alternatives, but you get what you pay for in terms of quality.

EFFECTIVENESS 83%
It genlocks very neatly indeed, and the RGB adjusters are a bonus. Shame about the lack of a chromakey.

FLEXIBILITY 88%
VHS and SVHS options, RGB controls, keyhole mode, and composite compatible.

INNOVATION 80%
Excellent results along with surprisingly solid construction.

'A highly desirable, compact, quality genlock at a very reasonable price.'

OVERALL 80%

Essence I & II

John Kennedy looks at two programs which are aimed at established 3D image renderers. Steven Spielberg would love 'em!



As anyone who has ever tried to render anything at all with a 3D ray tracing program knows, a good texture is essential if your image is to look in any way realistic. There is no point creating an ultra-detailed model if the visual appearance is a boring matt grey. Different materials all react to light in different ways, and the key to realistic renderings is to simulate these effects as closely as possible.

Unfortunately, good textures are hard to come by, although it has to be said that there is a growing number of IFF images in the Public Domain, and some are even now available on CD-ROM. The problem with these IFF textures is that to be any good they must be stored in 24bit 'true colour', and that means the large ones consume memory at a fearsome rate.

Plus it's hard work to get a convincing bump map out of a flat image, no matter how well digitised or scanned. Wrapping a digitised image of a label around a cylinder can produce excellent bean cans, but wrapping a picture of a brick around a rectangular box won't capture the roughness of the object.

Here's a unique program that makes excellent use of *Imagine 2*'s hidden talents – procedural textures. *Imagine* allows the use of two types of textures: normal IFF images which can be used as 'brushmaps', and secondly special textures which are defined mathematically. Unfortunately, it doesn't take long before you will exhaust the fourteen algorithmic textures that come with *Imagine*, and then you're stuck; it's not possible to define new ones.

NEW STUFF

Essence (volumes 1 and 2) is a collection of new textures for you to play with, and basically they leave the original ones for dead. In this collection you'll find patterns that will immediately get your creative juices flowing and suggest all sorts of new images to you.

The new material types are provided as raw textures, and also as fully fledged attributes which means you can dive right in and start experimenting once you have opened the box. Along with the traditional names of 'woodgrain','flagstones' and 'seawaves' you'll find more exotic 'plasma', 'blob' and 'radarscope'. There is an entire drawer given over to organic textures, and personally I can't leave this one alone. The 'fleck', 'vein' and 'crust' textures bring to mind all sorts of disgusting possibilities, and hey – are they good fun to render or what? Even the more mundane textures are excellent - the flagstones look incredibly real and you can even create fractal finishes.

ANIMATIONS

Best of all, the values which control the textures can be set up to change over time, so not only do you get a practically infinite number of materials, but you can create animations which feature the materials morphing.

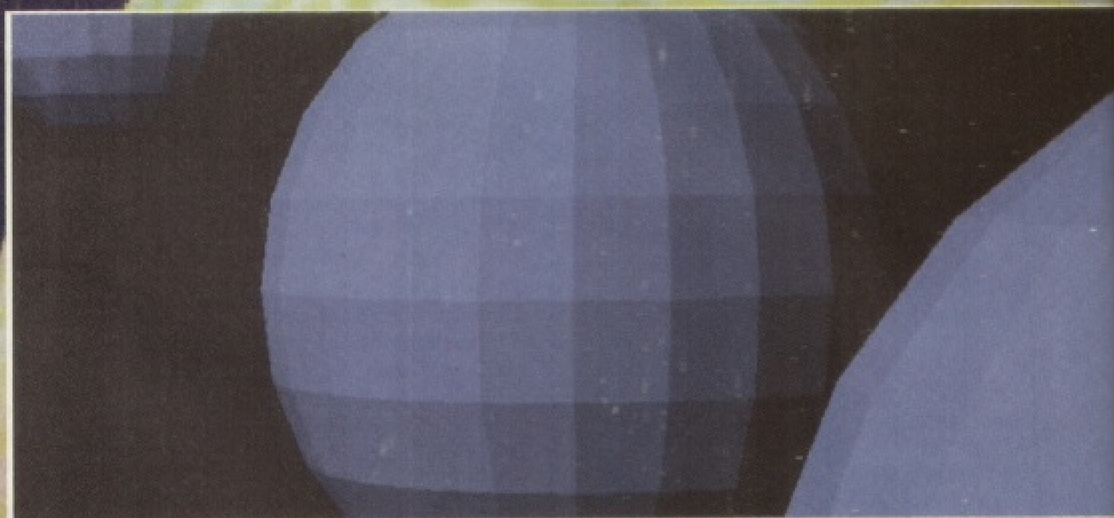
Using a really organic texture, it's possible to create an animation that would cause even Ken Russell to loose his lunch. The first-ever Amiga anim-nasty?

The only proviso when considering buying *Essence* is that you must have a math co-processor (either a 68881, 68882 co-pro or a 68040 processor) because the textures rely heavily on calculations.

That said, using several *Essence* materials in a rendered scene didn't slow my A4000/030 down very much.

In fact, as they replaced some very large 24bit bitmaps, the rendering process was actually speeded up ever-so slightly.

Of course, you'll also need to own *Imagine 2*, but as long as you do you have no choice – buy the book *Understanding Imagine 2*, both volumes of *Essence* and re-make *SeaQuest* with an interesting plot.



STATE-OF-THE-ART 3D

What makes a 3D picture look real? A good model? Sensible lighting? Definitely, but the material from which the objects are made cannot me ignored. A realistic texture can make all the difference between a good image, and a great image. Most textures are 'brushmaps', flat pictures which could be created in *Deluxe Paint*. The rendering program can take the IFF file, and bend it around the object in order to create the final image. This technique works extremely well for carefully digitised images, and can look really good when animated. For example, different digitised pictures could be mapped onto a rotating cube for a real late 1980's Top of the Pops effect. Most rendering programs can also create 'bumpmaps' using IFF brushes, which can define areas of different relative heights. The accepted norm is for the red level in the image to control how high or low the corresponding area of the object is in relation to the average (unchanged) height. A procedural texture is different. Although it can create brushmaps and bumpmaps, the texture isn't stored as an image. Instead it is a mathematical formula which the render uses to calculate the appearance of the image. The texture could be describing waves (for a sea-like object) or an abstract patter, using fractals.



ALTERNATIVE IMAGE £80

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Essence I & II work with all Amigas - if a co-processor is fitted, and a copy of *Imagine 2.0* is running.
Alternative Image, 6 Lothaur Road, Leicester LE2 7QB. Tel:0533 440041.

EASE OF USE 88%
It might some time to master the textures completely, but jumping straight in will still produce excellent pictures.

EFFECTIVENESS 96%
Great pictures! What more can I say? Ok, I hope it works with Imagine 3.

FLEXIBILITY 95%
There are hundreds of thousands of possible results.

INNOVATION 90%
An add-in for an already excellent program?Looks good to me.

> *What a brilliant product.*

OVERALL 92%

Pixel 3D Professional

Despite the name, *Pixel 3D Professional* isn't an image renderer by nature. Rather, it's a tool that anyone who used any form of rendering software will probably find useful. Although the excellent IFF standard has meant that images, sound and text can be freely swopped between programs, rather unfortunately there isn't a similar standard for 3D objects. This means that it won't be possible to load a fridge-freezer object created with one package, say,*Caligari*, into another package, say, *Imagine*. This mightn't seem a big problem, for you might say who could possibly afford to own all possible rendering programs? Fair enough I would reply, but what if you have access to some Public Domain objects and you don't have the right package to make use of them? *PixPro* is ideal for this situation, because it can load, transform and save objects between dozens of different formats. So even if you don't own *Imagine*, you can still use the incredibly detailed but freely distributable objects from American company ViewPoint.

Once an object has been loaded into memory, *PixPro* will also attempt to optimise the structure before saving them out, which can save a lot of bother. Some programs number their polygons in a specific order, and *PixPro* will also try and sort this out to avoid nasty inside-out images. Colours and textures are also preserved when possible, but don't expect miracles as the way in which materials are defined is considerably more complicated than even the way objects are stored.

EDITING

However, *PixPro* is a lot more than a simple format swopping utility. Objects can also be edited, so any stray points and faces can be moved into exactly the right position. Editing objects in this way can actually be easier than using some dedicated rendering programs (no names mentioned, but you don't need a vivid Imagination to know who you are).You can examine the object in a true perspective view, or swop between the familiar three side views by clicking on the gadgets. Wireframe, solid and shaded views are possible and, in addition, clicking on the main view window and moving the mouse will replace the object with a bounding box and will spin around on any axis.

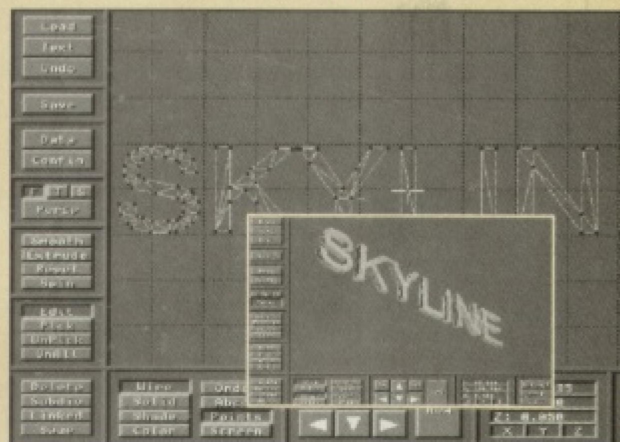
CREATION

It is also possible to create objects from scratch, with two popular methods sometimes missing from dedicated renderers. Creating an image directly from a font is a useful, if not essential, feature for professional renderers. How else can you get a lovely chrome company logo tumbling into the screen if you can't create a font object? With *PixPro* you simply type the required text into a requestor and select the bitmapped font (there is no support for smooth compugraphic fonts, unfortunately). The text is instantly converted into a flat object, ready for use.You will probably need to add some depth, so the 'extrude' option will be well used, as will the 'smooth' option which can do away with the worst of the jaggies. For something a little different, add a 'spin' which will drag the object back into the screen, twisting it as it goes. Finally a 'bevel' effect can be added for that finishing touch. All these tools can be applied to any object, including those that are made from the second method: bitmap conversion. Occasionally you may want to convert a flat image into a 3D object, for example when you need a particularly smooth font. *PixPro* will load and convert and bitmap, as long as it's not in HAM or 24bit format. Due to the memory intensive nature of this process, it's best held in reserve for small two colour images.

FLAWS

PixPro can occasionally come in very handy if you are in the business of rendering a lot, although it does have a few minus points. For starters, despite an update to version1.01 it still will not behave itself on my AGA equipped Amiga and the screen flickers like crazy every time I try to rotate an object. Another niggle is the lack of support for *Real 3D* formats. Although it is just about possible to swop objects by saving them in *Sculpt4D*'s format and then converting them using *Real 3D*'s own conversion program, this is a hassle. Finally the font support really needs to be expanded to include support for scalable fonts.

Even with these flaws, I need to use *PixPro* perhaps once a fortnight. When I do, it proves its usefulness without question. CU



PixPro's editing features are better than some dedicated programs. With fourteen different formats supported, you are bound to find the one you want. (As long as it's not *Real 3D*).

Alternative Image £200

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Alternative Image, 6 Lothaur Road, Leicester LE2 7QB. Tel:0533 440041.

EASE OF USE 89%
One of the easiest 3D object editors to use.

EFFECTIVENESS 85%
Works great - object are converted well, and editing features are useful.

FLEXIBILITY 86%
Lots of formats supported – except Real 3D.

INNOVATION 80%
Fills the void left in other rendering programs.

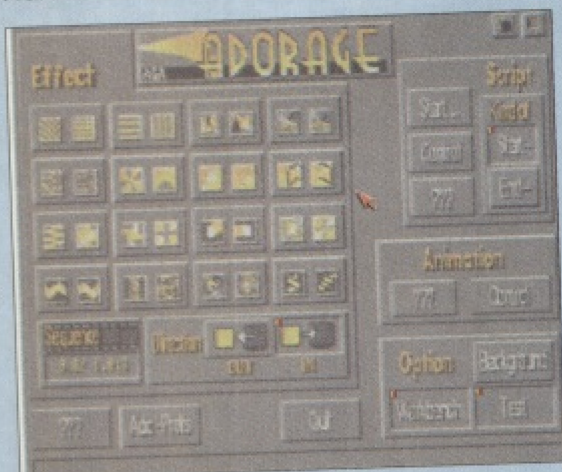
> *A lot more than a simple format swopping utility.*

OVERALL 85%

ADORAGE 2 AGA

Adore him or hate him, Tony Horgan's here again, and this time he's messing about with a fancy bit of video software.

Have you ever been sat in front of your telly, watching the non-stop barrage of video effects, and thought, 'I wish I could use my Amiga to make Philip Scholfield roll up into a ball and bounce off the screen, while I cut to a shot of Sarah Green!' Well that dream could become reality if you get your hands on the new AGA version of *Adorage*.



All your effects are chosen from this simple panel. The icons are mini representations of the effects themselves.

ROLL 'EM

Adorage specialises in the kind of video effects often used in TV to add a bit of sparkle to edits, links and credits. You may end up using it for just a few seconds of a complete production, but those few seconds could be the difference between a swish, fast moving and visually-gripping video, and one that just trundles along from one scene to another. What it does is really quite simple, but it does it very well. It manipulates bitmap graphics to produce wipe and fade effects, but unlike a lot of other video and animation packages, *Adorage* often manages to push out a silky smooth 50 frames per second, even on 68000 machines. Here's how it works.

The main screen has a panel of 16 effect icons. Clicking on any of them brings up a few options, from which you can load your foreground image. For no apparent reason, the image has to be interlaced. This isn't a problem if you work regularly in interlace, but there's absolutely no reason why it couldn't work with non-interlaced screens. HAM screens are out too, although 256 colour images are fine.

Once you've got your image loaded up, you're presented with another panel of buttons. Each effect has a number of variations, anything up to about fifty for just a single effect, although some just have a few variables.

Instead of working on individual pixels, *Adorage* chops the image up into blocks, and it's here that you specify just how large or small the blocks are to be. Working with small blocks gives a more polished look, but can take a lot longer to render.

Rendering can take anything from a few seconds to half an hour, so you have to be careful not to forget to click the RECORD button before you start it going, otherwise you'll waste a load of time as the frames are rendered, then immediately erased (lots of fun I can tell you...).

SNAZZY

All of the effects display your foreground picture in some snazzy way. For example, you could have your logo or title screen zooming out from an inky void, spinning around and finally pasting itself to the inside of your TV screen.

Alternatively, it could materialise from a mass of seemingly random dots. Then there are the Venetian blind and page-turning effects. If you want to cut from a still frame to a new scene, you can reverse the process, so that your initial image explodes into little pieces, or peels off to one side. Curiously you can't just reverse the animation once it's been rendered – to get it to play backwards you need to re-render it with the direction button switched to reverse. If you want to add a background to the effect, it's no trouble to load one in from disk, although it does have to be in exactly the same screen mode as the foreground. Of course, you can use any video source as your background if you're using a Genlock.

The effects aren't limited to the whole screen. You can specify certain areas, and assign them their own effects, so you could have different parts of an image rolling on, or peeling off, in their own ways. You can also string together a series of wipes to make up a little sequence.

SMOOTH ANIMATION

Flagged as one of *Adorage*'s big features is the Super Smooth Animation player. This is an alternative to the standard IFF ANIM formats and has the advantage of being able to replay sequences at 50 frames per second in many cases, which gives your wipes a very slick look.

It won't always manage the magical 50 frames though, and often slows down on more complex sequences.

It could really do with an option to keep the frame rate steady, rather than starting off smooth and then chugging once it gets half way through. In these circumstances it would be better to play the whole sequence at the slowest rate. The software could detect this on the first playback, and then alter the frame rate accordingly.

IFF animation is also possible, but you'll lose the smooth frame rate unless you have a nice fast Amiga. IFF animations are saved out as single files with 001, 002 type suffixes, rather than single anim files. There's no way of playing standard animations through the Super Smooth Animation player at the moment.

The pixelisation effect is especially pleasant, and looks pretty slick as it fades in to the image from a mass of blurred squares.

CONCLUSION

So long as you don't expect too much, *Adorage* shouldn't disappoint. It won't blow your mind, but it might make you say, 'oh, that's quite good'.

Despite the system requirements stating that 1Mb is enough, you'll actually need more than that to do anything at all, and preferably quite a bit more if you want to use it to its full potential. You'll also need a hard drive, or at least a high density floppy drive, as the animation files are often too big to fit on a standard floppy. It's limited in what it can do for your videos – it's really designed to help you put the icing on your cake rather than bake the sponge – but if wipes and fades are what you need, then this is probably your best option. CU



Spinning 3D zoom effects are handled well. The smooth 50K'z results are impressive, but eat large amounts of memory.

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EASE OF USE	78%
Non-standard but generally intuitive, occasionally lacks intelligence.	
VALUE FOR MONEY	76%
A relatively cheap price for a simple program.	
EFFECTIVENESS	80%
Gets the job done without much fuss.	
FLEXIBILITY	65%
Quite limited in its uses.	
INNOVATION	70%
The Super Smooth Animation system works well, although the effects aren't state of the art.	

'Professional quality wipes and fades, but lacking a few bells and whistles.'

OVERALL 77%

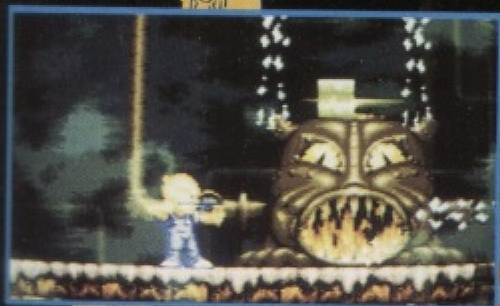
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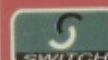
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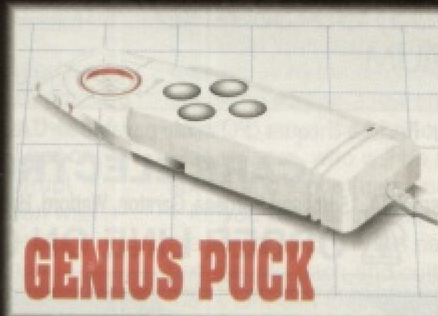
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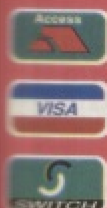
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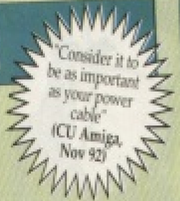


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Cygnus Ed



John Kennedy takes you through the edited highlights of Cygnus Ed.

WHAT'S NEW IN VERSION 3

If you are thinking of upgrading your existing version, you'll want to know what's new.

First of all the scroll bar bug has been fixed, and now all AGA and ECS screen modes are supported. The rest of the program looks very familiar, with only a few additions to the menus.

The search and replace requestor now remembers previous entries, which can be scrolled through to prevent tedious re-entry of long strings. Unfortunately, the replace is still not intelligent, and won't handle wildcards very well.

The search for matching bracket has been expanded to include C comments, the number of split views has been increased, the clip board is fully supported and there is a new stand-alone macro editor.

Public screens are supported and finally the bookmark keys are been fixed to make more sense with UK keymaps.

ASDG are offering upgrades at special prices, so contact your dealer for more information.

You'll soon find that the more you use your Amiga, the more you'll find yourself using programs called Text Editors to create files. After three or so attempts at using the standard program *ED*, you'll also find yourself thinking that there must be a better way (and just exactly what did control-B do again?).

The fact is, *ED* is user-unfriendliness at its very worst. No explanatory menus, no sensible key presses and above all it's simply a pig to use – but don't hold anything against it: *ED* was designed to be a quick way of altering system files, and it still is if you can remember how it work.

The question is, would you want to write a novel with it? Or enter a 5000 line C program? Do you imagine that this review was originally written using ED? The answers to these questions are of course, 'no', 'no way' and 'get real' respectively.

When you're entering text you want the software to be as intuitive as possible, so that very little gets between what you are thinking, and what appears on the screen. When programming you need extensive editing facilities and good macro handling. And to top it all, the software needs to be 100% reliable or it's not really worth taking out of the box.

OLD TIMER

I found my dream editor several years ago, when I first found ASDG's (they of *Art Department* fame) *Cygnus Ed Professional.* Here was an editor that looked simple, but had tremendous power. From that day to this I've never used a different editor for more than a few days at a time. Even when *TurboText* appeared offering *Cygnus Ed* emulation, it wasn't quite the same and never did find a permanent home on my Workbench.

The only problem came when I upgraded from Workbench 1.3 to 2.0 and finally to 3.0. *Cygnus Ed* came with me, but although it still worked there were a few bugs. For example, the scroll bar on the side of the screen quickly became corrupt when text was moved around or the screen was split. Neither were the AGA screen modes supported, which meant a return to the flickering I thought had been banished forever. In short, *Cygnus Ed* was getting old.

NEW AND IMPROVED

Finally my prayers have been answered, for the ASDG stork has brought me a sequel. After a week or two using v3.5 I've got a pretty good feel for it, but before we get to that part, here's a brief run-down on what *Cygnus Ed* actually does – after all, entering text can't be that exciting, can it?

Even starting *Cygnus Ed* is clever. After you have installed it, reset your Amiga. Everything looks normal, doesn't it? But press ALT-SHIFT-ENTER, and suddenly the editor pops up instantly in front of you. This 'dormant' feature is excellent, and never fails to come in useful.

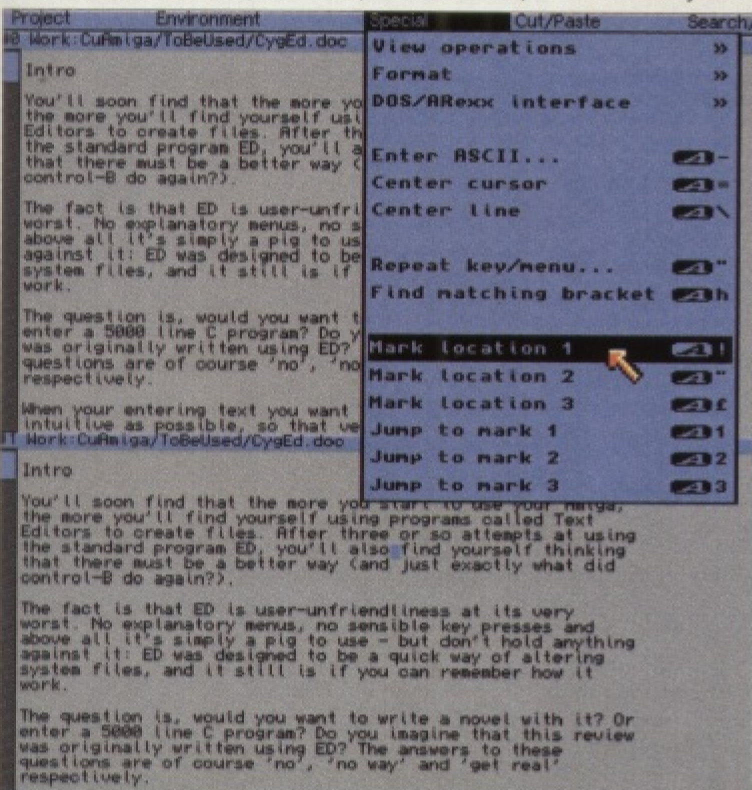
The installation process will usually replace the decrepit old *ED* with *Cygnus Ed*, so typing something like 'ED myfile.doc' at the CLI will also cause the editor to pop up. Normal Amiga file requestors are also supported if you wish.

When your text file has been loaded (or entered from scratch) the next step is to scroll it up and down the screen a few times. This doesn't achieve anything other than annoying any passing PC or Mac owners, who will be amazed at the sheer speed and smoothness of the text whizzing by.

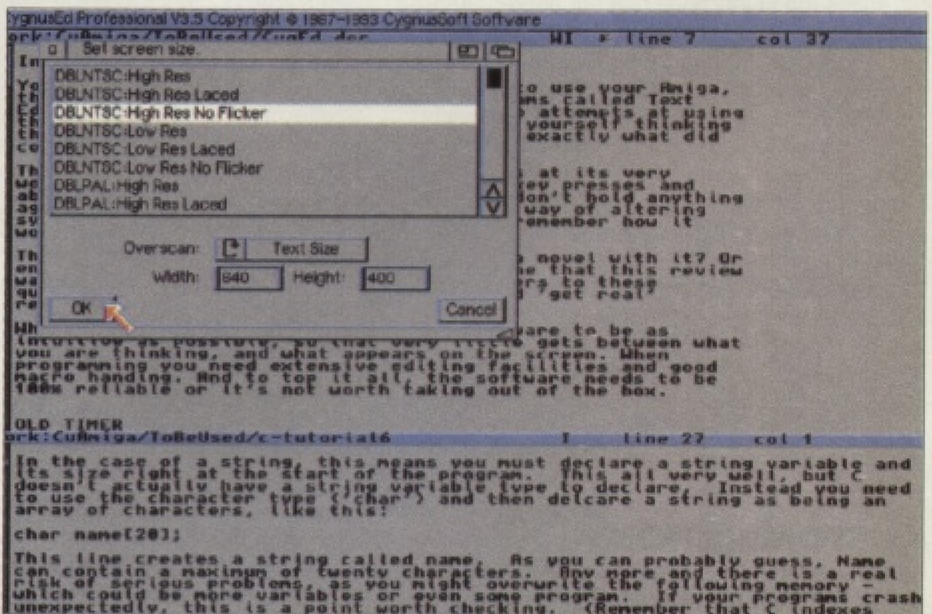
If you want to impress them further, try splitting the screen into various sections, loading a different text file into each and cutting and pasting between them. Oh, can their editor to that? Well can it run different copies of itself on different screens, and copy between them? *Cygnus Ed* can run on its own screen, and on a Workbench screen at the same time, and still share clips. Right now for instance, I'm entering this text on the Workbench editor, whilst a C program languishes on its own screen. The C compiler and a few other programs are happily multitasking in the background.

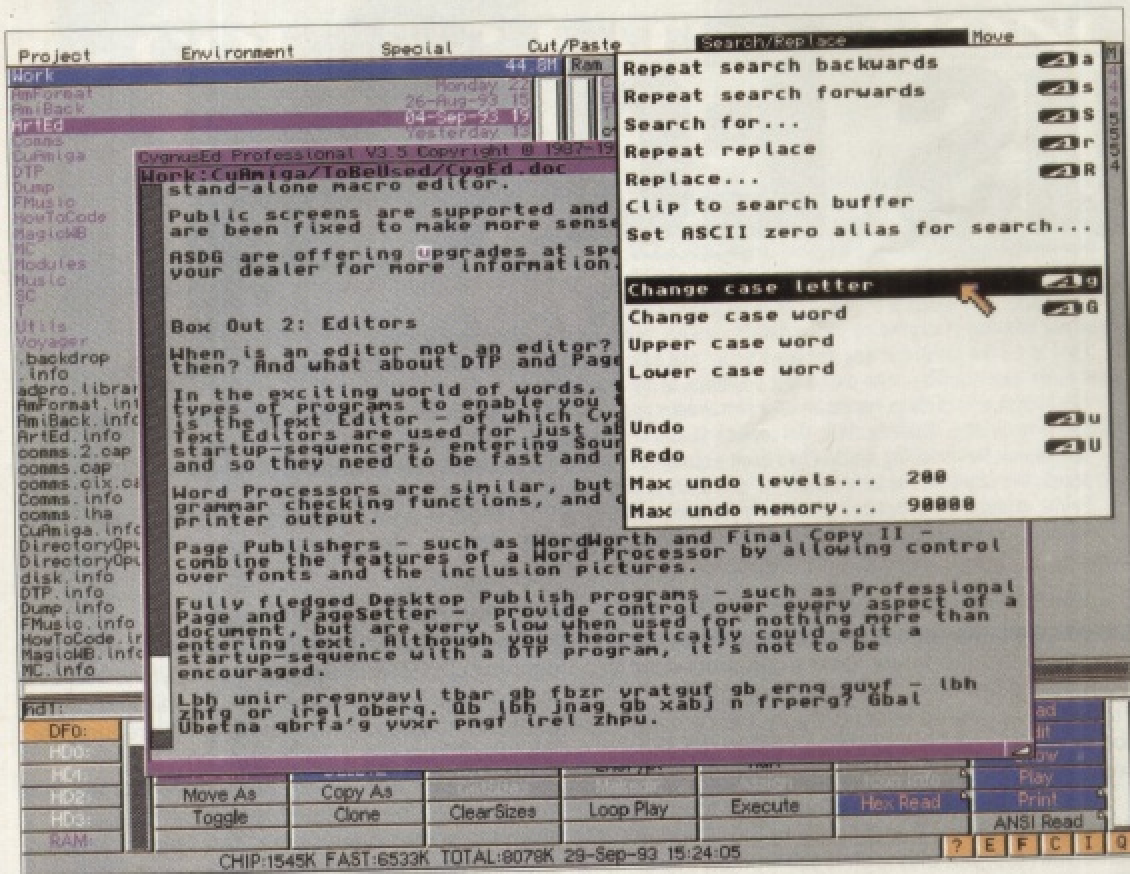
Sorry PC/Mac people – this is the 90s. If you want similar power without an Amiga, you'll need to get a Unix workstation.

If you enter some text in the wrong place, or select a menu option you didn't mean to, don't worry – *Cygnus Ed* has a built in time machine. »



Left: The ability to split screens to provide separate views (on the same file, or different files) makes editing text a lot simpler. The bookmarking feature simplifies finding your way around large files.
Below: Cygnus Ed now supports all Amiga screen modes. This means you can at last use Productivity mode, or stop any flickering when you flick back and forward to the Workbench.





Left: The support for Public Screens means you can open *Cygus Ed* on other program's screens – here on top of *Directory Opus* for example.

Unlike some editor programs, the Undo doesn't simply repair the last action – it actually undoes it. And the one before. And the one before that too. In fact, you can step back in time undoing everything if your Amiga has the memory. For example, if I decide I didn't like that last sentence I can just hold down Amiga-U and watch as it's unwritten. If I change my mind, a different keypress will re-do it. It's all automatic and exceptionally useful.

FEATURES

Cygnus Ed is bursting with features, but if there aren't enough for you well, why not make your own? The macro support is both powerful and simple enough to actually be worthwhile. Hit a key to start a macro recording, choose the key or keys it will be linked to, and then start doing what it is that needs doing. From now on, every time you hit the macro-key the operations will be performed – just as though you had typed them.

Macros are terrific for repetitive editing jobs, such as those which seem to occur in Assembly language editing. Incidentally, the ability to cut vertical blocks from text is also extremely useful whilst editing source code.

All the menu functions that are offered are also available for use from *ARexx*, the Amiga's personal scripting language. This means other programs can communicate with *Cygnus Ed*, and so, for example, your C compiler could highlight the line in the Source code file where any error exist.

Cygnus Ed is the program that first introduced me to *ARexx*, and it still has one of the best interfaces I've seen. As Jason Holborn wrote in the October issue, if only every Amiga program supported *ARexx* the world would be a much better place.

New in this version is a stand-alone macro editor for altering pre-defined keystrokes. This is rather useful, for previously macros had to be completely redefined from scratch if you made a mistake.

CUSTOMISATION

When you have finally gotten *Cygnus Ed* to display things in exactly the way you want (chosen screen mode, colours, fonts, word wrap and so on) you can save the settings in a configuration file. This file can make the default loaded every time the editor starts, or the choice of settings can depend on the file loaded for editing.

For example, if you save a configuration file with no word wrap and 5 minute auto-save with a suffix of .c (for example, ceddefaults.c) then this environment is the one that will be used when the a source file ending in .c is loaded.

EDITORS

When is an editor not an editor? What's a word processor then? And what about DTP and Page Publishers?

In the exciting world of words, there are now at least four types of programs to enable you to solve these questions and enter text. The simplest is the Text Editor – of which *Cygnus Ed* is a good example. Text Editors are used for just about everything – editing startup-sequencers, entering Source code, writing letters – and so they need to be fast and reliable.

Word Processors are similar, but also include spelling and grammar checking functions, and comprehensive support for printer output.

Page Publishers – such as *WordWorth* and *Final Copy II* – combine the features of a Word Processor by allowing control over fonts and the inclusion of pictures.

Fully fledged Desktop Publish programs – such as *Professional Page* and *PageSetter* – provide control over every aspect of a document, but are very slow when used for nothing more than entering text. Although you theoretically could edit a startup-sequence with a DTP program, it's not to be encouraged.

DISASTER RECOVERY

If you happen to experience a terminal software failure whilst using *Cygnus Ed* (although it is extremely unlikely that *Cygnus Ed* would have caused it) a special recovery program is supplied with will hunt through memory searching for files.

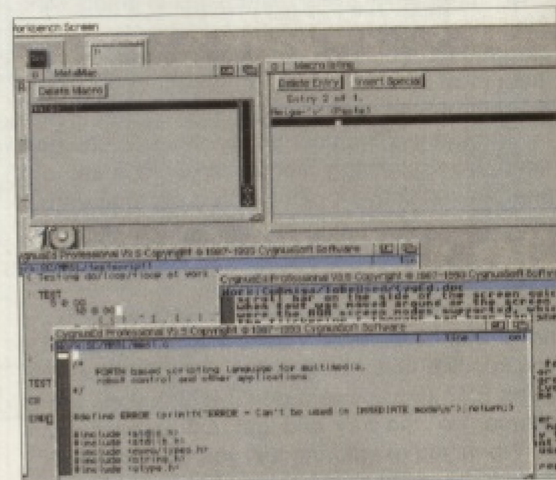
In real life, you would rarely if ever need to use this feature, as the autosave option will keep updating your file onto disk. The autosave will check every few minutes (you decide how long) and save your file if required. Every Amiga program should have an autosave feature – with true multitasking and no hardware memory protection it's the best we can get.

CONCLUSION

Cygnus Ed has been, and will remain my favourite text editor. It's very fast, very efficient and now it works on A1200s and A4000s properly. If you are still using Workbench 1.3 you even get a free Workbench 2-look interface thrown in.

The update to version 3 is a little disappointing, because the majority of changes are simply cosmetic or bug fixes. Folding still isn't supported, the ultra-fast Search and Replace isn't particularly intelligent and for an editor aimed at writers (not just programmers) where are the spelling and grammar checkers?

Perhaps version 4 will address these requests, but in the meantime I'm just happy that *Cygnus Ed* lives on. It's the best text editor, so if you use your Amiga keyboard for anything other that entering your name in hi-score tables, get it immediately.



Here multiple copies of *Cygnus Ed* are running on the Workbench, with the macro editor at the top. The editor displays the current macro – a way of fixing the move from Amiga-I (as used in version 2) to Amiga-V (version 3) to insert text.

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EASE OF USE 95%
Lots of menus and key shortcuts, although AmigaGuide back-up is absent.

VALUE FOR MONEY 85%
A lot more expensive than Ed (Ed is free with every Amiga!) but you get your money's worth.

EFFECTIVENESS 97%
Very, very fast and reliable. Exceptionally useful when programming.

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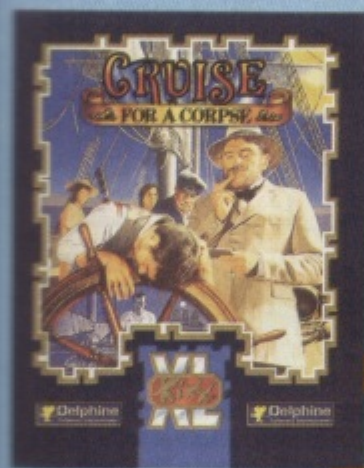

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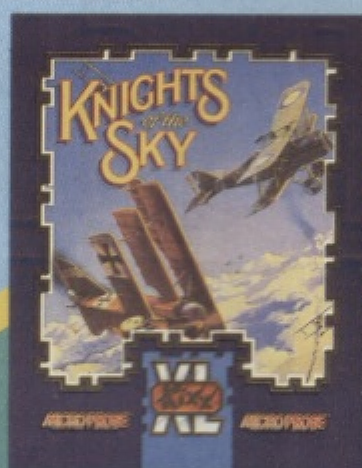
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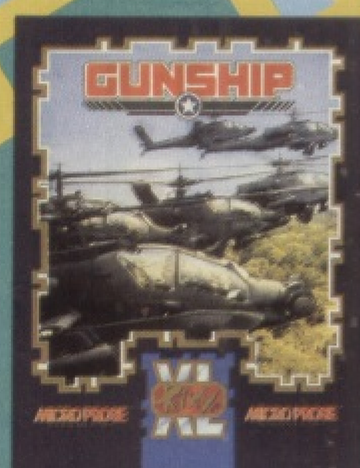
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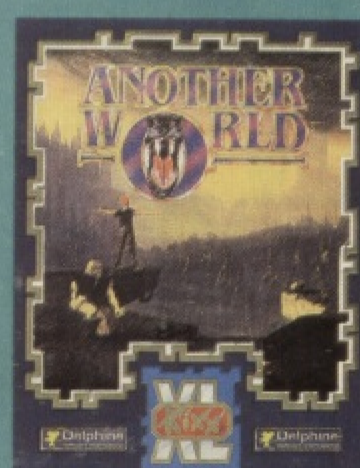
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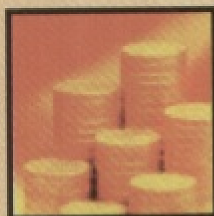
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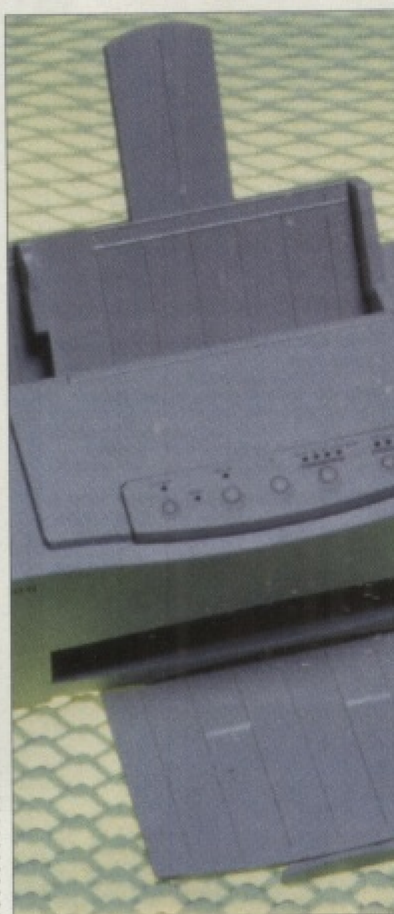
The Amiga was designed to be a graphics computer. Unfortunately, way back when the Amiga first came out, the only printers that could do Amiga graphics justice were horrendously expensive. In those early days there were few desktop colour printers. And worse still, even fewer colour printer drivers. This has all changed. Most printer manufacturers now offer a colour machine in their range, be it ribbon, inkjet, or laser.

This is extremely heartwarming to Amiga graphic users because with the advent of Windows on the PC and a corresponding explosion of colour in the software used with it, the printer makers are pushing for increased use of colour hardcopy throughout the business world. This all bodes well for the Amiga user. As a greater range of machines are now available, so mass production and competition will push prices lower and lower.

This autumn has seen the launch of three new printers. Read on to find out more about these brilliant new additions.

Colour Printer head-to-head

David Ward takes us by the hand and leads us through the plethora of printers that are now appearing for the Amiga.



CURVY CANON - THE BJC-600

I was immediately reminded of a portable stereo radio/cassette player when I, eager with anticipation, unpacked Canon's new BJC-600 colour inkjet printer.

Smaller and lighter than Hewlett-Packard's 550C the Canon is designed to sit near your computer. It manages this by using a vertically mounted 80 sheet auto feed for standard paper sizes and envelopes.

The print mechanism has a removable print head that contains four nozzles with 64 jets each. Into this snaps the individual colour ink cartridges. This reduces running costs in that you are only replacing an ink reservoir and not a complete printhead cartridge each time.

However the printhead will eventually need replacing at some point as nothing lasts forever.

This machine is a 360 dpi printer that utilises the advances made with the recent BJ-200 series. This gives it a text throughput of 240 cps and intelligent head control.

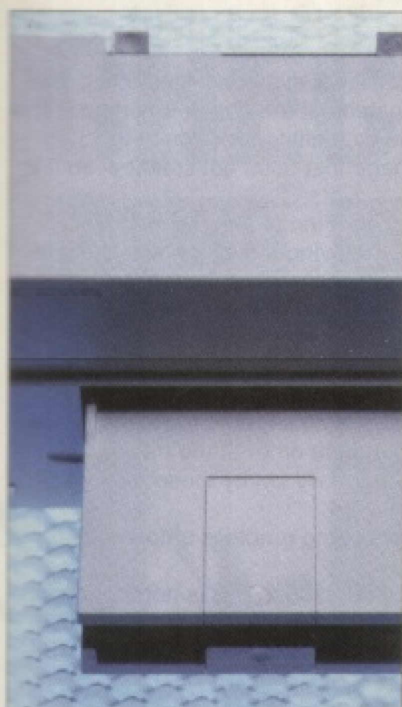
The parallel interface connector is situated rather unusually on the top of the printer to the back of the control panel. Here a limited number of buttons are used to control a lot of functions. For instance individual nozzle cleaning can be carried out.

To see what you are printing involves a wait while a third of the page is done. This is due to the carriage mechanism and the overhang of the exit slot masking the paper.

You can get an early idea of what's going on if you look diagonally across the mechanicals with the lid up. Not really a satisfactory solution, but it is better than not being able to see anything at all (like the 1200C).

The resolution is a good deal better than the Hewlett-Packard printer, and the individual ink cartridges mean that long term running costs will be much cheaper than the Hewlett Packard machine.

PRICE: £599 91%



OFFICE PRINTER
- THE DESKJET 1200C(PS)

Nearly twice the weight of the 550C, the massive Deskjet 1200C is hardly a printer that sits next to your computer. In fact, it is really designed to be connected into a business computer network, where it would probably have its own desk and office. To link the printer to a network there is a slot for an Ethernet interface card just above the parallel port. It can also be equipped with a Postscript card and up to 26Mb of RAM. It comes with 2Mb of memory as standard, or 4Mb with Postscript installed.

Mechanically the printer is similar to the 550C, 300 dpi in monochrome, but rated at 6 ppm. By using 'resolution enhancement', a form of anti-aliasing, text can be sharpened to give an apparent 600 by 300 dpi. Instead of a black and a tri-colour ink cartridge, this Deskjet has much larger individual ink cartridges for the black, cyan, magenta, and yellow colours.

The auto sheet feeder is roughly the same, but provision has been made for manual feed with the addition of a slot on top.

This is the first printer I have come across that will not work if the bonnet is up. I understood why when it first started to print. The table it was resting on shook as the printheads were whipped from side to side. This is a fast machine, no wonder it needs a cooling fan.

Don't expect your page to be ejected soon after selecting 'PRINT' on the Amiga. There is still a delay while the entire image is downloaded into the printer's RAM. This is a serious drawback if you are making test prints, as you will need to wait until an entire page is done.

PRICE: £1325
POSTSCRIPT VERSION £1850

70%



DESKTOP DESKJET
- THE HEWLETT-PACKARD 550C

Launched last year as a replacement for the 500C, the 550C looks like a small upright piano with paper trays where the keyboard should be – this bit forms the automatic sheet feeder.

The paper is picked up by a rubber roller, rotated through 180 degrees, printed on, and ejected into the top tray. For this reason adhesive labels are not recommended for use in this printer – they could easily peel off their protective backing and jam the mechanism.

However you could always use an A4 size label and then cut it up to size after printing.

There are two combined ink and nozzle cartridges, one for black and one that contains the three primary colours. When new cartridges are installed, a printer alignment check must be carried out.

Unusual nowadays is the fact that this printer has a serial interface in addition to the normal parallel type. It also has two slots for RAM or font packs.

The 550C will happily bash out crisp black text in a choice of up to four fonts at 300 dpi and 2 ppm. Colour printing is not at the same resolution – see the box out on Dithering on the left of page 100 for the reason why this is the case.

The machine produces high quality prints, and it is easy to see what is going on if you need to stop. This is very handy if your software is not producing the required result, and you really need to make some colour adjustments.

PRICE: £539
EXTRA 256K RAM PACK £141

78%



TWINKLE, TWINKLE LITTLE STAR - THE SJ-144

This is the smallest, lightest, and loudest of all the printers on test. It's not even an inkjet either. The Star SJ-144 also uses a method known as thermal wax transfer. Instead of the printer squirting drops of coloured ink, the small dots that make up the images are formed by melting wax from a multi-coloured ribbon onto the paper. This results in a brighter colour image that does not smear even if it gets wet.

Unfortunately, there are some drawbacks to this method of printing. First of all, each ribbon cartridge can only produce eight A4 colour prints before it is exhausted. Having the inkjet equivalent of 144 nozzles is another disadvantage. With a black ribbon installed, the Star will output 360 dpi text at 255 cps in a choice of two fonts. A special zoom mode allows the reduction of the printed output by three levels.

This is in addition to the standard condensed and semi- condensed print modes, and a further option called '2 page mode' will print two pages worth of information on one piece of paper.

In fact, the Star has more features than you could ever wish for. The 30 sheet vertical auto feeder is supplemented with two other paper path slots. One on the front and the other at the back.

There are no dip switches to be altered manually. Any features normally set by these are done electronically from the control panel and then saved.

Special ribbons that act as labels, and iron-on transfer paper for putting graphics onto material such as T-shirts, are also available.

The Star suffered from both white and dark line banding in Epson48 mode. This is not the recommended driver and could have been the root cause of this problem. It also halves the ribbon's life.

The preferred setting, CDM – Compressed Data Mode, in this pre-release beta version of the SJ-144 printer driver still has a few bugs that need exterminating.

So, until then, I will reserve judgement on picture quality.

77%



Have a shufty at the little bit of dithering in this picture. Makes your eyes water.

DITHERING

Dithering is a clever technique that is used to fool the eye into believing there are more colours on the page than there actually are.

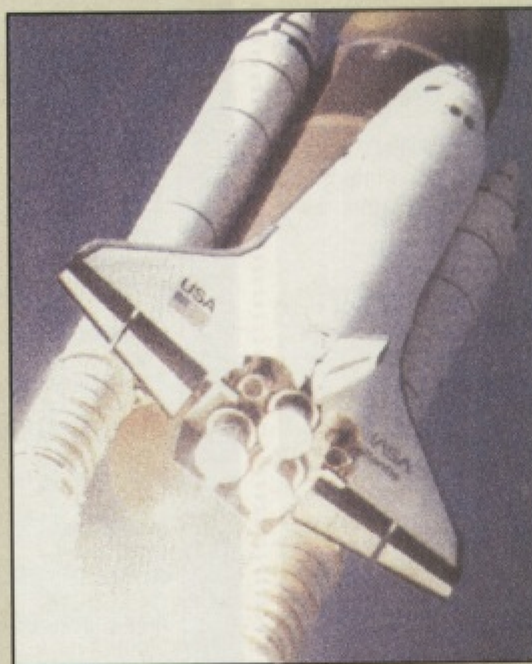
There are a variety of dither patterns. Each has its own advantages and disadvantages depending on the printer, and type of picture, it is used with.

The space shuttle pictures printed here were done using *Studio*'s Halftone (64) dither. This pattern can reproduce 64 shades in each of the ink colours. The more shades you choose, the larger the dither pattern, and consequently there is a reduction in printer resolution.

On a 360 dpi printer a dither pattern using an 8x8 matrix, which gives 64 shades, will reduce the resolution to 45 dpi.

This is one reason why manufacturers tend to promote their printers with prints that have large areas of solid colour.

Another is that it does not take long for a computer to output such a print, thus giving misleading print times. The more colours you want, the longer it will take to print, as the dither patterns have to be calculated by the computer.



Canon's BJC 600.

ABOUT THE TEST

Our test picture is a 24-bit scanned image from the CDPD III disc. To get the output from the various machines to match what is seen on the monitor screen takes an extremely, long time.

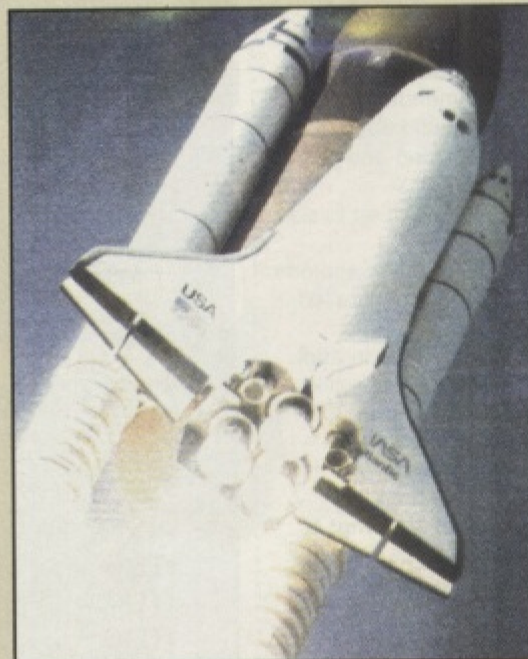
First of all, a test print has to be created. When the test print is ready it is checked and any adjustments which are necessary are then made. This process is then repeated many times over until something approaching the screen image is output.

As these are new machines a lot of experimentation went on to make sure that we got the best possible prints for each machine.

Choosing the right paper is another aspect that you should look into as well. Paper quality can greatly affect how a finished print out looks. No matter how good the printer, if the paper is very bad quality the image will not look as good as it would have done on good quality paper.

And if your looking for speed, forget it. A high quality print will take at least half an hour to produce, and sometimes even a lot longer. Colour printing is not 'plug in and off you go' like most other peripherals.

Take a look at our guinea pig picture and check out how it faired on some of the different printers. Look at the differences and similarities in the print outs and judge for yourself.



Hewlett Packard's HP Deskjet 550C.



Star's SJ-144.

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Blizzard 1200/4

With a bewildering choice of A1200 memory expansions on the market, Darren Irvine may have found the ideal way to fill your trapdoor.

When I bought my A1200, I anticipated a whirlwind journey into new excesses of speed, with previously impossible sampling and graphics capabilities. After all, my new machine would be running on a powerful 020 processor, and would sport an impressive 2Mb of Chip RAM. Imagine my disappointment then, when I tried to load a 32 colour IFF picture into *MorphPlus* and was told I had insufficient memory. I soon realised that nothing really ran any faster than before, and there wasn't even a built-in clock. The solution? A trapdoor RAM expansion.

The Blizzard 1200 board comes with 4Mb of Fast RAM as standard. To that, you can add a maths co-processor (33MHz 68882 in the case of the review model) and a battery-backed clock. The board appears to be of very high quality construction, with the RAM chips all nicely surface mounted, thwarting any attempt by envious friends to turn them round in their sockets whilst you're out of the room. The board also sports a peculiar socket arrangement, which is used to add a board containing a further 4Mb of RAM.

INSTALLATION

Fitting was pretty easy, with a minimum of wobbling required, although it did make a worrying snapping noise as the edge connector slipped in. As RAM chips are fairly static-sensitive, I made a special point of not dragging my polyester-socked feet across my nylon carpet before fitting the board. Once I'd fitted the board it was a case of plugging all the leads back in and switching back on. After the gut-tightening pre-boot pause of the A1200, things kicked up as normal, and I was eventually rewarded when the top strap of the Work bench displayed '1,843,352 graphics mem 3,442, 320 other mem'. Now for some Fast RAM and 33MHz co-processing japes!



Compare these SysInfo readings to those from your unexpanded A1200 to get an idea of how much the new, improved A1200 will motor.

PERFORMANCE

In general, most things ran a bit faster than before – typically 50% to 70% faster, and things that refused to run before due to lack of memory now worked fine. The speed increase is brought about by a combination of the 68020's utilisation of the 68882 co-processor, and partly by the fact that applications can now run in fast RAM, freeing up Chip RAM for sound and graphics. I ran Sysinfo and was informed that my machine was now running at a theoretical 121% increase over the speed of a standard A1200, with my machine being rated at 2.94 Mips and 0.63 Mflops. This is quite impressive, comparing well with an A4000/030 which weighs in at 4.02 and 0.72 respectively. These figures indicate that an A1200 with a Blizzard board runs Sysinfo 121% faster than a standard vanilla machine, but you can expect to see a speed increase of most applications.

CONCLUSION

This is a well-constructed board that lives up to its claims, and at a very reasonable price too. You can add another 4Mb of RAM at a later date for £139.95, or you can save some money by buying it with 8Mb and the co-processor for £369.95. The only drawback, as with other RAM boards, is that once the board is fitted, you cannot add an accelerator card to your A1200 as well. If on the other hand, you do not need a massive increase in speed, and would be happy to see things run 50% faster than usual, then this is the board for you.

Because of the variations in specifications, comparing prices with boards from other manufacturers isn't easy, but the Blizzard board compares very favourably with similar kit. The table shows exactly how the Blizzard board measures up to others on the market.

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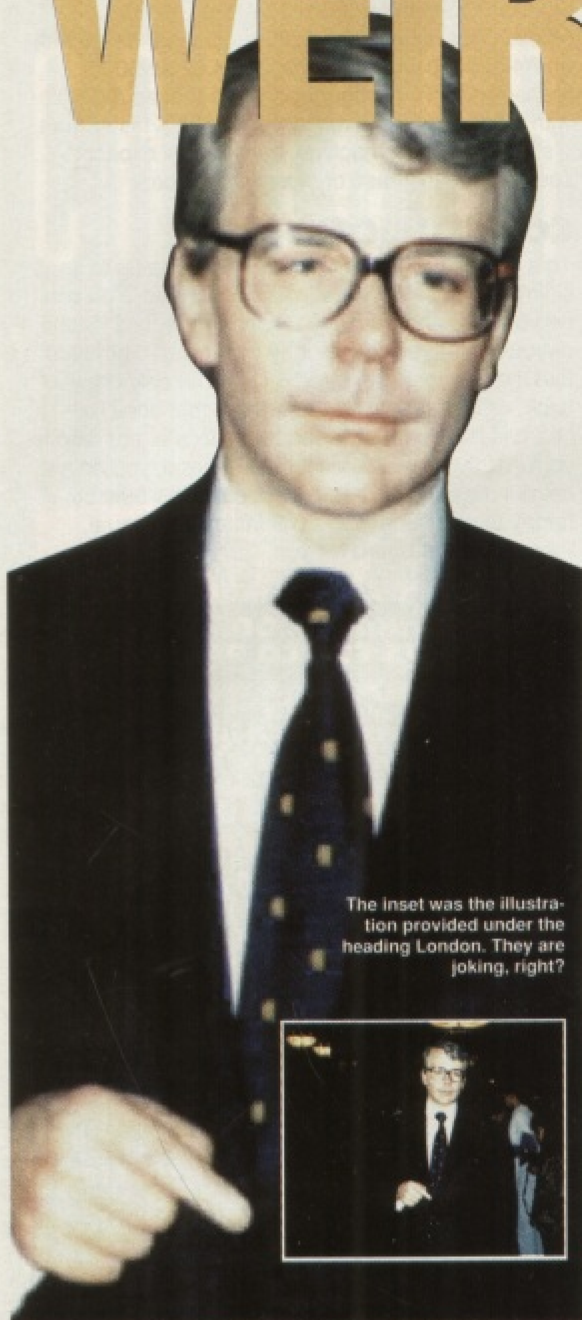
OVERALL 82%

COMPARISON CHART

BOARD	SOURCE	CONFIGURATION	CO-PROCESSOR	CLOCK	SET-UP	PRICE
Blizzard 1200	Gordon Harwoods	4/8 Mb	Optional 33 MHZ 68882	Yes	4Mb Co-pro Additional 4Mb All three above	£179.95 £79.95 £139.95 £369.95
Microbotics MBX 1200	Indi	0/4/8 Mb	14Mhz 68881 50 MHZ 68882	Yes	0Mb/14 MHZ 68881 4Mb/25Mhz 68882 8Mb/50Mhz 68882	£109.99 £309.99 £579.99
Gasteiner AF 1200	Gasteiner	1/5/9 Mb	16Mhz 68882 33Mhz 68882	Yes	1Mb no co-pro 5Mb 33 MHZ 68882 9Mb 33 MHZ 68882	£115.00 £299.00 £439.00
Turbotech A4 1200	Siren Software	4 Mb	No	No	4Mb only	£169.99
PC1204	Power Computing	4/8 Mb	Optional 68881/68882	Yes	4Mb 33 MHZ 68882	£289.99
GVP A1200 RAM +SCSI Interface	GVP	0/4 Mb	Optional 68882	No	0Mb 4Mb 33 MHZ 68882	£199.00 £399.00

WEIRD SCIENCE Multimedia Toolkit

More Amiga owners are getting into CD-ROMs, probably because each can store 600Mb of data. John Kennedy looks at the latest addition to the PD selection.



The inset was the illustration provided under the heading London. They are joking, right?



Shovelware is a term I would like to introduce to you. It deals with the technique of choosing software to store on a CD-ROM. With each disk having the capacity of over 600 floppy disks, it can be extremely tempting to grab all the data to hand and just shovel it on. It's a sort of 'quantity versus quality' argument – just feel the width, sir.

Here's another piece of jargon for you – Multimedia. Sounds kind of exciting, doesn't it? It brings to mind all sorts of pictures, text, sounds, interaction and that sort of thing. Unfortunately, when you put shovelware and multimedia together, you don't get a huge amount of useful information, you get very, very bored.

WORDS AND PICTURES

As a recent CD-ROM convert, I've been looking for all the software I could find, and I'd been looking forward to the *Weird Science Multimedia Toolkit* for months. When it finally came, I anticipated another lost week along the lines of the *Aminet Collection* – but I was wrong. The disk autoruns on a CDTV, and asks you to choose between a slideshow or a disk-utility style front-end. When you choose the slideshow, you are then asked if you want HAM or HAM8 display modes (why is this not done automatically?) and then you can settle back and watch the slides. Although the slides are incredibly realistic, slide shows have always bored me stupid, and this electronic version is no exception. You lose out on the dialogue of course (in fact there are no words describing the pictures at all), and the MED tunes are irritating, but you do get the naff holiday pictures taken in Spain and Greece.

INSIDE

Looking at the disk from AmigaDOS, via a parnet adaptor or external CD-ROM drive, the remaining files can be accessed: there are drawers full of various pieces of clip art (bad), new AmigaDOS icons (poor) and hundreds of fonts for both video and DTP work (reasonable). There are also a lot of sound samples, taken from both musical instruments and sound effects, which could theoretically be useful. It took about fifteen minutes before I became bored and had to force myself to continue looking.

Some constructive criticism? Okay, how about better-quality pictures, more utilities, in fact more MULTIMEDIA for heaven's sake. Where are the *Hyperbook*, *CanDo* or *Helm* examples? Where are the CDXL moving pictures? Where is the interactive element? Where are the pictures and clips you can use yourself? I was under the impression that at least some the images might be useful in my own software. Call me naive, but I thought that was the entire purpose of the disk. Imagine my surprise then, when I discovered a 'readme' file in the disk, from which I now quote: "The images are provided as a source of beauty to be admired, however they should not be freely distributed or used for commercial purposes." In other words, the pictures cannot be used again – in fact, there is probably a good chance that they shouldn't even have been used on this disk. Weird Science accepts no responsibility for breach of this clause.



One of the few sections to feature high-quallity images is the wild animals drawer.

CONCLUSION

You really have to wonder what on earth the point of this disc is, as unless you are easily impressed with static pictures on your TV, you will have exhausted your desire to explore this disk within fifteen minutes. On the plus side there are some useful fonts and excellent pictures of wild animals. On the minus side the disk is filled with a large collection of seriously bad clip art, some phenomenally tedious tunes, a lot of terrible icons and some of the worst pictures you'll ever see. The section on London is clearly some kind of joke, as is the music punctuated with female gasps used to back the 'women' slideshow [*How sad – Ed.*].

The Multimedia Toolkit is typical of the standard of CD software that has made the CDTV the success it is today. Let's all hope the CD32 fairs an awful lot better.

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EASE OF USE 45%
Definitely could be better. Most contents remain a mystery unless you know exactly what you are doing.

VALUE FOR MONEY 40%
Most of the pictures are worthless, but the fonts and samples would otherwise cost quite a few quid if on floppy disks.

EFFECTIVENESS 35%
As a multimedia toolkit, it's not very good.

FLEXIBILITY 50%
The icons, fonts and samples add to an otherwise dull collection.

INNOVATION 60%
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WHICH AMIGA?

Thinking about buying yourself an Amiga for Christmas? Jason Holborn surveys the Amiga range and helps you to make that all-important buying decision.



The festive season is almost upon us again and it's that time of year when the marketing boys from Nintendo, Sega, Atari and just about every other console toy manufacturer tries to capture the hearts,minds and money of thousands of computer users up and down the country. Commodore, too, are investing millions in advertising the Amiga with a seven million spend on television advertising alone. If you've been keeping your eyes peeled then you couldn't have not noticed the flashy advertisements that have been popping up on our screens between episodes of Channel 4's GamesMaster and just about any other programme that attracts big audiences. Being the intelligent types that we know our readers are, the choice of which type of computer or console to buy is pretty obvious. After all, what other computer or games console can match the Amiga for that gobsmacking ability to run the hottest computer games, the hottest graphics packages, the hottest music programs and indeed the hottest anything? Even without taking a look at the vast range of software available for Commodore's baby, the machine's specification speaks for itself – after all, what other computer can truely multitask (Atari's Falcon tried but failed miserably), display over 262,000 colours on screen simultaneously at a maximum resolution of 1280 by 512 pixels (Super VGA looks decidedly sad next to an AGA-based Amiga!) and still manage to run a damned good version of *Elite 2*? – you'll never see that running on a Super Nintendo!

Commodore have received more than its fair share of stick over the past couple of years or so for releasing machines and then dropping them within months but with the arrival of the CD32 and the new AGA-based Amigas, the range of machines seems to have finally stabilised.The budding Amiga owner now has a choice of basically four machines – the SNES and MegaDrive-beating CD32, the flagship A1200, the 68030-based A4000/030 and the rocket-powered A4000/040. All four are based around virtually the same chip set but each is aimed at a particular type of user. As a result, each has its own individual strengths and weaknesses. Which Amiga is best suited to you? Well, let's find out...

CD-32

Commodore's answer to the threat of the Japanese and American console giants comes in the form of the recently released £299 Amiga CD-32, a stonkingly powerful CD-ROM-based Amiga console designed specifically with the games market in mind. At the moment the CD32 is primarily a platform for gamesplayers, but Commodore recently confirmed that they do plan to release a number of CDTV-like upgrades that will transform the CD32 into a computer in its own right. A disk drive and keyboard are only the first of a line of planned upgrades.

The CD32 isn't Commodore's first foray into the CD-ROM market.Years before the launch of the CD32, Commodore dipped its corporate toe into the CD market with the CDTV player, a unit based around a Kickstart 1.3-based A500 that was marketed as a 'home multimedia player'. Having learnt from the lessons of the CDTV failure, the CD32 is destined to do much better. Like the original CDTV, the CD32 is based around existing Amiga technology in the form of the A1200. As a result, it comes equipped with the same 2Mbs of RAM as the A1200 and the AGA chip set. What makes the CD32 so attractive, however, is its built in CD-ROM drive, a double-speed device that allows the console to pull in information direct fron CD-ROM at rates of up to 300k per second and its unique 'Planar' chip which handles the task of transforming PC-format graphics held on the CD-ROM drive into the 'interleaved' bitmaps used by the Amiga's graphics hardware.

Like all things new, the CD32 is rather starved of software written to take advantage of its extra hardware. A number of big name releases are planned, however, including *Jurassic Park*, *Alien Breed 2* and *Syndicate*, all of which are to be enhanced to take advantage of the extra storage space that CD has to offer. Games should come i at an average price of around £30 which is consid erably cheaper than both Mega CD and SNES



The new CD32.

SO WHERE'S THE '040?

We haven't dedicated a review specifically to Commodore's top of the range Amiga, the A4000/040, simply because it's so much like the A4000/030 that any comments or criticisms levelled at that machine equally apply to the '040-based machine. There are a couple of exceptions, however, not least of which is the price - whereas the A4000/030 can be picked up for under £1000, the '040-based A4000 is somewhat more expensive. Commodore have recently dropped its price and so it can be picked up for around £1800.

So what does that extra £800 buy you? Well, believe it or not,very little hardware-wise. Apart from the fact that all A4000/040's come as standard with 120 Mb IDE hard drives and 6Mb of 32-bit RAM, the only differences between the '030 machine and the '040 machine are to be found on the machine's processor card. The card inside the '040-based Amiga is without doubt the computer equivelent of a Jaguar XJ220. Gone is the '030 machine's reasonably rapid 68030 processor and in its place is Motorola's current flagship processor,the 68040. Even without the assistance of a maths co-processor, this Jaguar XJ220 of a processor runs over 40 times faster than a basic 1Mb A600! Kick in the 68040's built in maths co-processor and you've got a processing engine that can really cook!

Early A4000/040's used to be based around the budget-priced 680EC040 processor which had no maths co-processor and no memory managements unit (MMU) but Commodore have since seen the error of their ways and the current machine now boasts the full 68040 chip with all its associated bells and whistles.

BARGAIN BASEMENT AMIGAS

Buying secondhand is all very well and good, but there's nothing like having the reassurance of knowing that if something does go wrong with your Amiga, you've got a guarantee to cushion the blow. Commodore rested much of its hopes on the success of the A600 and, as a result, it manufactured a few too many. Although Commodore have now 'officially' stopped producing the A600, the widespread abundance of old stock means that many shops still sell brand spanking new A600s. Until those stocks dry up, the A600 can still be seen as a current product.

The official retail price of the A600 is £199 but retailers are so keen to shift them that you can pick up an A600 for considerably less than this. Although it lacks the advanced accelerated processors and AGA chip sets of the new age Amigas, the A600 does come complete with 1Mb of RAM and Workbench 2.0 – more than enough computing power for the average beginner. Plus you get the added bonus of a full year's warrantee. Just scanning through the advertisements in a recent issue of CU Amiga we were able to find several advertisers selling A600s for as low as £169!

software. Add to this the price advantage the CD32 has over the MegaCD and the CD32 is a very attractive proposition for gamesplayers.

A1200

Commodore's 32-bit flagship is the A1200, a computer that forms abridge between the gamesplaying talents of the CD32 and the raw processing power of the A4000 series. Offering the best of both worlds in a package that costs just £299, the A1200 is an ideal choice for anyone who needs a computer that can run the latest creativity and 'serious' software and can still play a damned good game to boot. Running approximately 2.5 times faster than its forerunners, the A600 and A500, the A1200 is the perfect hobbyist machine.

To all intents and purposes, the hardware inside the A1200 is almost identical to that used in the CD32 console. Like the CD32,the A1200 is based around a high speed 68020 processor running at 14MHz. Although the basic machine is only approximately 2.5 times faster than its forerunners, adding more memory can actually increase the speed of the machine two-fold. The machine comes as standard with 2Mb of 'chip' RAM, but it's perfectly possible to expand this to a maximum of 10Mbs of RAM using any one of a range of inexpensive RAM expansion cards. Most also offer the option of a maths co-processor, a chip designed specifically for handling complex floating point calculations at high speed.

The A1200 also boasts the same AGA chip set that is now to be found in the entire Amiga range. The AGA chip set extends the machine's colour palette to over 16.7 million colours of which any 256 colours can be shown on a standard screen.

A special HAM8 mode extends the range of colours that can be shown to a mind-boggling 262,144 colours simultaneously. These screen modes eat a lot of memory so a RAM expansion is a definite must.

With the arrival of the CD32, Commodore have confirmed that a CD-ROM drive will be launched for the A1200 that will allow it to run the same games »



The A1200 in all its glory.



The A600 – another forerunner to the A1200 and what some claim to be Commodore's biggest cock-up.

» software as Commodore's console killer. Expansion is a problem with the A1200, however, only a single add-on can be plugged internally into the machine and even this cannot be used if the A1200 CD-ROM drive is connected. Gripes aside, however, the A1200 is a powerful machine that should not be underestimated.

For hobbyists everywhere, it's an absolute dream machine.

A4000/030

A4000/030 Bridging the gap between the high end A4000/040 and the A1200 is the A4000/030, a machine that offers a bit more power to your desktop. Based around the Motorola 68EC030 processor running at 25 MHz, the A4000/030 is no slouch – running approximately four times faster than a basic A1200, the A4000/030 is a true 'power without the price' package (sorry Atari!). Although it does not come as standard with a maths co-processor, one can easily be fitted directly onto the machine's processor card.

Unlike the A1200, the £1000 price tag of the A4000/030 also includes the price of an 85Mb IDE hard drive. Commodore themselves sell two versions of the '030-based A4000 – the basic 85 Mb machine for £999 and a 120Mb machine for just £100 more. Machines equipped with considerably larger hard drives are also available from a number of CU Amiga advertisers, but most users find these basic drives more than adequate.

Commodore used to ship the A4000/030 with 4Mb of 32-bit RAM but due to reasons known only to big C themselves, the machine now comes with just 2 Mb of chip RAM. With the burdens imposed by the machine's AGA chip set and hard drive, this really isn't enough so be ready to pay out for some extra RAM if you want to use your A4000 /030 for anything more than playing games. Memory is fitted to the machine via inexpensive SIMM modules which plug onto the machine's board.

Apart from the faster processor and integral hard drive, the A4000/030's greatest selling point has to be its expansion capabilities. The A4000/030 can take add-ons in the form of plug i[n] cards. A large number of add-ons are available o[n] cards including extra RAM expansions, PC emula[tors], 24-bit graphics cards and even the infamous VideoToaster.

For the more serious Amiga user that needs a machine that can not only grow with them but is a real performer in its basic configuration, the A4000/030 is one hell of a machine.



SPEED FIENDS

We all know that the A1200 is faster than the old A600 and that the new A4000/030 and '040 machines are faster still. But just how fast are they? We put all four machines to the test using the public domain benchmark program 'AIBB'.

Machine	Integer Math	FPU Math	WritePixel
A600	1.0	1.0	1.0
CD32	2.67	1.72	3.0
A1200 (No Fast RAM)	2.67	1.72	3.0
A1200 (Fast RAM)	3.89	3.15	4.17
A4000/030	6.31	23.83	9.26
A4000/040	17.15	214.40(!)	15.33

BUYING SECONDHAND

If you're not that worried about laying your hands on a machine with the latest graphics chips and the sort of benchmark speeds which could gain you a speeding ticket then the answer may lie in the second hand market. With the advent of ever more powerful Amigas with flashy new graphics chips, the secondhand market has become awash with Amigas being sold off at bargain-basement prices – just look through magazines such as *MicroMart*, *Trade-It* and *Amiga Mart* and you'll find a veritable Aladdin's cave of cheap machines.

The range of machines available is bewildering, so let's take a look at the sort of machines you should be keeping your eyes open for.

A1000 – Commodore's original Amiga was called the A1000 and although it was a mould-breaking machine in its time, it looks rather sad even when compared to an A600. It came as standard with 256k of RAM although it's very rare to find a machine with less than 512k. It used the same 7.14 MHz 68000 chip as found in the A600 although its graphics chips lacked the 'SuperHiRes' and 'Productivity' modes offered by the A600's 'ECS' chip set. Unless you're pondering for a bit of computer nostalgia, this is a machine to stay well clear of. Pay no more than £100 for one of these babies!

A500 – The original Amiga 500 was really nothing more than a reboxed A1000 and it too offered a basic 512k of RAM as standard. The A500 was the first Amiga to have Kickstart held within the machine on a ROM chip (this had to be loaded from disk on the A1000). Two different versions of Kickstart were made available – versions 1.2 and 1.3. If the machine is 1.2-based then it's very old indeed and you shouldn't touch it with a barge pole! Kickstart 1.3 fixed a lot of the bugs in 1.2 and also added the ability to boot from a hard disk. In all, the A500 is still a workhorse of an Amiga although the arrival of the A500Plus made these earlier examples somewhat less valuable. Pay no more than £120.

A500 Plus – The A500 Plus didn't last that long but it was by far the best example of the A500 Amiga ever produced by Commodore. Not only did it gain the (then) new Enhanced Chip Set (ECS) but it also came as standard with Workbench 2.0 and a full megabyte of memory. Many still regard the A500 Plus as a better machine than the A600. As a result,the secondhand price of a Plus is still quite high – around £150.

A1500/2000 – Contrary to what many others have said, there's very little difference between the A1500 and the A2000. These two machines were the forerunners of the A4000 and as such offered greater levels of expansion thanks to their PC-like box designs. Both machines allowed cards to be connected internally and came as standard with 1Mb of RAM. Unlike the A4000, however, you don't get an accelerated processor - both are based around the same 7.14 MHz 68000 as used in the A600. Expect to pay around £200-250.

A3000 – Commodore's first foray into the 'super Amiga' league was the A3000, a machine based around the same processor as the A4000/030. Originally available in both 16 and 25MHz versions, the slower A3000 was soon dropped when demand proved to be none existent. All A3000s come as standard with either a 52Mb or 100Mb hard drive, 6Mbs of RAM (2 of which is chip RAM), Workbench 2.0 and the ECS graphics chips. A3000s were originally sold for almost £3000 but the arrival of the A4000 slashed their prices to well below £1000. Secondhand A3000s can now be picked up for around £400-500.

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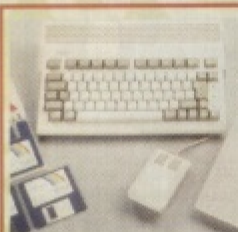
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A MEETING OF MINDS

PART 3

The great CU AMIGA debate reaches part three. By now, the assembled characters from the industry have had a bit too much of the old falling down water, and the opinions are flowing thick and fast. Join the merry mob as a fly on the wall and find out what they really think about violence, games for girls, sex and Take That.

Mat: One of my pet hates are games that won't install on hard drive.

Jools: If you make a game hard drive installable you're basically saying to the pirates, 'Here you are, have that'.

Stewart: And you lose 100k too.

David: 100k of RAM totally lost?

Stoo: Yeah, like that. Gone.

Jools: You'd only want to put it on your hard drive because you're sick of swopping disks around and if you're having to do that, the game's been badly written in the first place!

Ben: Yeah, but if it's a game that comes on more than one disk, then you're going to have to swop disks.

Jools: But if each disk stays in the drive for a week then it's not a problem, is it?

Ben: Okay, if you're writing games to fit on one or two disks then that's perfectly fine. If you're writing games to fit on five disks... <Murmurs of agreement>

Jools: Yeah, but what's the difference between one or two disks and five disks?

Ben: Well, most people have a second floppy drive. They have a DF0 and DF1 but they won't necessarily have DF2 and DF3.

John: A game like *Monkey Island 2* which came on 11 floppy disks, would be almost unplayable from floppy.

Jools: It's possible to write a game so that disk access is kept down to a minimum. If you look at *Cannon Fodder*, disk one is the loading sequence and music, disk two is half of the game, disk three is the other half. So what you've got is a few days of gameplay before you have to swop disks. I don't understand why somebody says, 'Right, there are seven disks, please insert disk one' – and I've seen this – 'now insert disk three, now disk five' and I'm sitting there like that (waves arms frantically)...

Eric: I think it depends on the style of game. If you get something that comes on one disk or two disks, so long as it's organised properly there's no need for it to be installable. You get your 100k of RAM back which you can use for something else, and that's always been our argument. I can't tell an Amiga musican like Richard Joseph that 'I'm sorry but you've only got 50k to squeeze your music and sound effects on', whereas if I don't make it installable, he gets 150k. It's not a big hassle in terms of a one or two disk product. On the other hand, an adventure like *Monkey Island 2* has to be installable.

Ben: Yeah, and by the same token, you should definitely allow games to take advantage of increased RAM, floppy drives and processor speed.

Eric: Yeah, sure.

Jools: It's like the PC market where you've always got to work to the early architecture.

Jolyon: But if you brought out a PC game now that wasn't hard disk installable you wouldn't sell any!

David: Everybody expects it to be hard disk installable.

Jolyon: I think the time is coming where it's going to be the same on the Amiga. Particularly with the 1200. It takes a minute to load all the data off an 800k disk, and it takes seconds to load it off hard disk, so it's obvious which people are going to prefer.

John: Is it safe to assume that 1Mb is standard?

Andy: Yeah.

Wavey: There are still users out there with 512k.

Seb: But you can buy a 0.5Mb RAM expansion for £25 for God's sake! That's less than the price of a game.

> ***If you make a game hard drive installable you're basically saying to the pirates, 'Here you are, have that.''***

Mat: I can't accept this argument from people that £25 is too expensive when they've forked out for the price of the machine.

Ben: You get PC games that require a 486 to run. *Ultima Underworld 2* and stuff like that, and I think the same should apply to Amigas. They should really be pushing the machine and raising the stakes. It might not be applicable to shoot 'em up games or platform-type games, but certainly for flight simulators – it would make games so much better.

Tony: That's all right if the program really needs 256 colours and a faster processor, like *TFX* for example, but some programmers are just using the situation as an excuse for sloppy programming.

Mat: But haven't we already seen that with *Links Golf*? Didn't that need 2 or 3Mb and a hard drive to run?

Ben: Yeah, but it wasn't a very good conversion of the game.

Mat: No, it was awful, but that's neither here nor there, it was a game which raised the basic requirements needed to play it.

> ***What's the difference when you play a game like* Syndicate *where you walk around the place blowing up buildings, then you turn on the news and there's a pub in Belfast getting blown up and people getting killed?'***

Ben: But if it was crap and everybody said it was crap, then the fact that it installed on a hard drive and needed 3 or 4Mb RAM...

Mat: ...was irrelevant

Ben: Totally! Nobody would buy it because it was so bad, not because it needed a hard drive.

Mat: Yeah, but the point is that somebody was actually prepared to make a stance. Jolyon was saying earlier on that he's working on a game which only installs on hard drive, which I think is a tremendously brave move.

Jolyon: It's a game I'm working on for Interplay which will not run off floppy disk.

Jools: What is it?

Jolyon: *Castles 2.* At the moment they've cut it down from nine to six disks and that's compressed data.

Ben: And it's because it's all low density disks as well.

Jolyon: I think it took up six high densities on the PC.

Tony: So exactly who is this game aimed at? Not the majority of Amiga owners, that's for sure.

Eric: Everybody has hard drives with their PCs but not with Amigas.

Mat: What is it now? 40%? 25%? It will certainly be 40% by the end of the year.

Eric: So you only want to sell to 25% of the people?

Mat: But we're at the same stage now as we were with memory three or four years ago when similar percentages had 1Mb, but then a few innovative games came along and stretched the whole concept further, like *Dungeon Master* and stuff like that. Once games such as these started to appear, it became ridiculous not to buy the extra memory because you were missing out on all this good stuff.

Jolyon: The problem is: most of the time you don't realise how much disk swopping is involved until you've bought a game.

Wavey: Most of the pirate versions of games are hard disk installable.

Jolyon: If the pirates can get stuff installing then there's no excuse for the software companies not to do it.

Mat: So what should be done about piracy?

Jools & Eric: CD.

Jolyon: It has to be. The only thing you really can do is go to an uncopyable medium.

Mat: FAST (Federation Against Software Theft) are starting to hit car boot sales and individual dealers but I don't know what effect it's having on the pirate community...

Ben: Most people aren't actually connected to the pirating community at all. All that happens is that they have a copy of a pirated game and they give it to somebody else because it can be copied.

Mat: Isn't it like the drugs problem, if you take out the main dealers doesn't that cut off the root supply for all of the people who »



Will we see anymore Lucas Arts' games converted onto the Amiga? We hope so!



Out of the eleven people we invited, eleven turned up. Perhaps it has something to do with the free bar!!!

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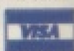
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It's amazing how a little amber nectar can get tongues wagging, and wag they certainly did!

are copying from them?

Ben: All it does is divert the source. It may be a little scarcer for a while and it may be a little more expensive. It's like building a dam. Water will always find its own level and get 'round the dam.

Andy: Most copying is done by kids in their bedrooms. Sure, there are the big guys who are ripping it off and selling it through boot sales, and that's where the commercial focus is. FAST can jump on them and make a big point of it saying, 'We've just clamped down on this car boot sale thing', but the ones who are doing the damage are the kids in the bedrooms.

Tony: What people forget is that piracy is what attracted most gameplayers to computers rather than consoles. You can only buy maybe one game a month at £30 a throw, but you can then top up your collection with pirate copies. That's how it works with most people. There's no way I'd pay £60 plus for a console game and expect it to last me for a couple of months. It's absurd!

Mat: What about converting games which have never been released on the Amiga? Is that a form of piracy? If the original company can't be bothered to do a conversion and just let the game gather dust, why shouldn't some other group do the conversion off their own back?

David: Is anyone doing that?

Mat: Yeah, I've seen a two-player versions of *Paradroid* and AGA versions of *Bubble Bobble*.

Wavey: I wish somebody would do *Marble Madness*.

Mat: I've even seen old Spectrum and C64 games converted. Popeye and stuff.

Tony: Yeah, there's a lot of good stuff like that on the PD circuit. *Donkey Kong*, *Aztec Challenge* <laughter> and games that are probably never going to be converted officially.

Eric: You can't condone it!

Mat: So what's the table's opinion about these people? I mean it's still piracy after all. <A long pause>

Eric: They're still breaking the law and they're exploiting someone else's intellectual copyright.

Jolyon: I don't think many of these people are after money from it. If they were, it would be totally different. A friend of mine has been working on an AMOS conversion of an old *Ultimate* game for the Amiga. The original would never get published on the Amiga. He's just gonna do it, give it to a couple of his friends, and I don't think that's gonna do any harm at all.

Ben: But that's different to somebody taking a game which already exists on the Amiga and then making it compatible with the new operating system, or new chip set or whatever, that's a different prospect.

'Piracy is what attracted most gameplayers to computers rather than consoles.'

Mat: But why? To the A1200 owner, that game is as unusable as if it was on the C64, so why should you make a distinction?

Eric: If they've bought a copy of a game and it doesn't work on the 1200 and they break into it and make it run on the 1200 there's no problem. It's when they start distributing it that I get angry.

Jolyon: So long as you've bought the original, then there's no problem.

Mat (To Eric): So what if Joe Bloggs comes up to you to buy a version of one of your earlier games which won't work on his 1200 and you can't supply him with a working version?

Eric: Then obviously we'd make a compatible version for it.

Mat: So does that mean that you've converted your back catalogue? What about *Speedball 2*?

Eric: We weren't aware when we wrote the game that it wouldn't work on the A1200 because the new machine didn't exist. We're working on a fix for it right now. [A fix for <I>Speedball 2<I> is available from 17-bit Software, call them on 0924 366982. - Ed]

Jolyon: Commodore's official published programming rules are not aimed at games writers, certainly not European games writers.

Ben: No, because European games writers have more of a tendency to hit the hardware anyway.

Jolyon: The game I've just finished is totally O.S. [Operating System] legal, you can even drag the screen up and down, but that's very rare and I certainly wouldn't expect many games to do that. I wanted to do a product that would multi-task, and on some things it does.

'I think the CD32's gonna work because it is fashionable.'

John: What about 500s and 600s, are those machines completely obsolete? If the CD32 sells in big numbers, software will be produced solely for the CD-ROM format because it's impossible to pirate.

Jolyon: Not necessarily.

Eric: I don't think you'll find many publishers writing CD32-specific titles.

Jolyon: A570s are still selling well and there's a huge number of 500s out there so you may find a lot of publishers are going to be bringing out software which is CD32 and A570 compatible so people can run it on their old 500s.

Ben: There's an awful lot of space on a CD-ROM to be able to do two versions of a game.

Mat: But how practical logistically and financially is it to do two versions of a game?

Jolyon: You don't have to do two versions. You can do the same version with just a little bit of conditional code in it.

John: Does that mean Commodore wasted their time giving us 256 colours?

Jolyon: No, you can have code that can do both. One set of code, two sets of graphics.

<Much disagreement with Jolyon from the other coders and developers at this point who seem to think that he is greatly over-simplifying the issue.>

Will256 coloured games become the Amiga standard? Only time will tell.

Jolyon: The project I'm working on, which I was going to plug, so I might as well do it now, is called *Video Creator*. It was originally a CDTV project and was going to be for a standard chip set Amiga, kickstart 1.3. As soon as we got information about the AA hardware, I started adding support for AA as well. It got to the point around January/February where the new code I was adding was too slow in 68000, so I started adding 68020 instructions instead. Now the product won't work on the old machines; it's AGA 68020 only. However, it has to be done on a product by product basis. If you have a product where you don't need to use '020 at all then why not keep a version compatible with the old machines anyway?

Eric: It isn't as simple as just storing two sets of graphics. If you were to use 256 colour mode and you want any speed out of it you have to rewrite it. You can't use the same code to drive the graphics.

Jolyon: It depends.

Eric: You're advocating one lump of code and two sets of graphics?

Jolyon: When I talk about graphics, I mean graphics and the graphics code surrounding it, but basically you have one piece of source code that says 'If version=AGA then go one place in the code' and 'If version<>AGA then go somewhere else'.

John: So how many software developers here will be releasing two versions of a game, or are you just going to be doing one for the most common denominator?

Jolyon: *Castles 2*, at the moment, is the same executable file and automatically detects which machine you've got and will load the correct graphics.

John: That's the best way to do it?

Mat: At the moment, releasing AGA-compatible games is a selling point, not just for the people who own such machines, but because magazines give the product more favourable coverage.

<General agreement>

Mat: So why not develop AGA-only games?

Eric: You've got to look at it from a publishers point of view and ask what would be gained from the extra time it takes to create 256 colour graphics, and the extra routines to drive them, in relationship to the number of machines that are out there.

Ben: It's also easier on the CD32 anyway with chunky pixel modes.

Jools: Yeah, but even without them, you only have to write the majority of your AGA routines once, and after that you can re-use them. So, assuming you have a PC version anyway, it's not a major thing to do AGA versions.

Eric: No, I'm just saying that you've got to look at how many 1200s are out there, even with CD32 and say, 'Are we going to spend the next three months doing an A1200 version with this team when we could be starting a new project?'.

Jolyon: The projects I'm looking at now will be 1200 first and then, if we can, the 500 versions will follow afterwards.

Ben: But Jolyon let's face it, you're not Renegade and you're not Ocean and you're not US Gold!

Jools: You sound like you've got moralistically the right idea, but commercially I'm not too sure.

Ben: 'Cause there's one and a half million »



Our willing volunteers were drawn from all areas of Amiga activity – the motley lot!

A500 owners.
Jolyon: A large percentage of those don't buy their software.
Andy: But there are still a lot more 500 owners out there than there are 1200's, and you want to hit the largest addressable base.
Ben: But it still means that you're going to be restricted. What's the point of having a 1200?
Jolyon: You've got to look at what the market will be, not what the market is now.
Jools: Does anyone think that A500 software will be selling in vast quantities in a year's time?
< Most people say yes >
Ben: Just look at how many Spectrum titles were still selling in 1988, even now.
Mat: I owned a shop three years ago, and Spectrum games were still one of the biggest sellers.
Ben: It's just going to percolate down. Basically, people who can't afford to buy a computer now are going to end up having an A500 in a year's time when somebody's giving it away for 50 quid.
Mat: Can I just ask the table whether they feel that there are any undiscovered game genres left? Now that the market is shifting to the CD medium, perhaps there are.
Ben: No, I think all you're going to do is end up disguising games with incredibly long intro sequences that you can only be bothered to watch once or twice.
Wavey: If there were any new genres do you really think anyone here would tell you?
<much laughter>
Mat: Well no, but one can easily just look at the CD format and see...
Ben: CD games with music, CD games with video!
Jools: I think you'll get some good adventure games.
Tony: CD games have lowered the level of interaction drastically. Look at the stuff on the Mega CD that actually uses the CD part – they're just spooling off bits of video. The CD itself isn't going to make gameplay much better at all. CDs are already out-dated - too slow and and too small for what people want to do with them.
Andy: But you guys understand the technology of computers and consoles, CD is in its infancy and nobody really knows. I mean sure it's got great storage, yeah we all know that, but you don't really know what that storage can be used for. I mean it's sound, it's video, but how do they interact? What can you do with sound and video? You can use them in their logical contexts, but what about other contexts that people haven't tried yet?

CDs are already out-dated - too slow and and too small for what people want to do with them.'

Mat: That's what I mean. You can think along whole new design concepts with a whole new media, and the point I'm trying to make is that if, say, CD quality sound is now at your disposal any time you want it, perhaps sound will become much more of a game feature for example.
Ben: But what difference is it gonna make? We've seen things like *Loom* come out where instead of having speech bubbles, you've actually got speech, which is very nice but it doesn't actually add anything to the game.
Wavey: I think it adds a lot. If you played the talkie version of *Day of the Tentacle*, it makes a hell of a lot of difference.
Stewart: They never sound how you think they'd sound.
Jools: I think if there are any more openings in the market, then publishers should be trying to aim their games at young girls. Forget about thirty year olds. They wanna listen to Beethoven all the time!
Tony: More girls are getting into computer games, but it's on the console side. Targetting games at girls doesn't work though. Does anyone remember that range of games that were meant for girls, and had things like horse riding, flower arranging, ironing...there was even a girls' horse riding game and that was completely pathetic!
Wavey: What about a Take That platform game!
Jools: How about a Take That look for developers?
Ben: You mean like the Bitmap Brothers
Jools: Yeah
Wavey: There's an awful lot of girls who play *Streetfighter II* because there are female characters that compete with the men on equal terms. There's very few games that take that approach.
John: What about virtual worlds on CD?
Ben: Role playing is a real killer subject for virtual reality, especially if you could link up four or five machines and the graphics get better. There's an awful lot of women involed in role playing, because it doesn't have to be geared towards violence - you can play campaigns that are completely violence-free...
David: But they're boring. You'd be surprised at how much people like violence. If you've ever been to these live role playing events, you see the women dressed up in outfits they wouldn't even wear on the beach, laying into someone with a rubber sword...



Vioelence pure and simple – that's what the kids want – well they do in this office!!

How about a Take That look for developers?

Jools: Virgin ran a survey recently with a bunch of 14 year old boys to see how they rated <I>Cannon Fodder<I>. Half the kids wrote down "I like the blood" – this makes you think, maybe we should put more in.
Jolyon: *Mortal Kombat* is rather violent, too, and it's extremely gory in some sequences. My brother has been banned from buying it by my parents. They drew the line at *Streetfighter*, and anything more violent than that is not acceptable.
Ben: The thing is there's no hidden depth in something like *Mortal Kombat*. You're basically there to beat the crap out of someone. Films might offer something else. There could be some horifically brutal scene that's vital to the story, but with games there's just the violence.
John: Do you think games will get more violent because of CD-ROM?
Jolyon: Clement Chambers has just released his *Cover Girl Strip Poker* for the CD32, it got an 18 rating from the film censors, but that's even more promotion for the game. If games are rated as standard practice, then some of the things we can get away with now are going to change. Certainly things like *Mortal Kombat* would get a rating that would damage the game's sales.
David: It won't stop sales. If kids want cigarettes they buy them.
Wavey: The last thing you want to do is advertise your game as having a U certificate.
Ben: If they say that *Cannon Fodder* should be an 18 certificate just because it's got blood in it, then that's ridiculous.
John: So what's the difference when you play a game like *Syndicate* where you walk around the place blowing up buildings, then you turn on the news and there's a pub in Belfast getting blown up and people getting killed?
Ben: You don't see anyone in the pub getting blown up though.
John: It depends if you're there or not.
Jools: If you got a kid who wants to become a serial killer, he's not going to get off over *Cannon Fodder*.
Andy: Yes, but he's going to start somewhere.
Seb: The point is that there's a lot of violence that kids can get access to, from videos and TV, and it's going to spill over into computer games and there's not much we can do about it. I don't really know how much it's affecting the younger generation, but I hope they're distancing violence in computer games from real life. If they weren't then surely all the kids would be going around shooting each other...



Watch out for Almathera's *Video Creator* on the CD32. It's looking kind of good...

POSITIVELY THE END

Phew! After a mamoth three months, we've decided to bring our Meeting of Minds piece to a close. We've still got more than four hours of tape to transcribe but Mat's had enough as he's gone partially deaf trying to decipher exactly what was said by whom and to who. Still, let us know if you enjoyed this series, as we'll do it all over again in the new year – depending on what response we get.

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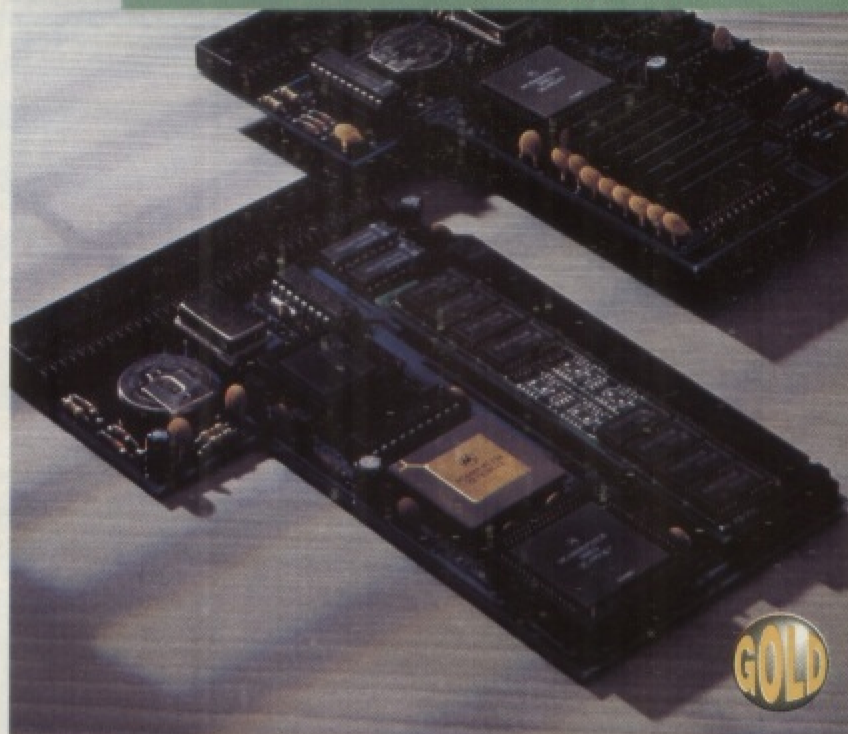
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Simply Plugs into trapdoor expansion area ☆ Increases total RAM capacity to 2Mb 'ChipRAM' ☆ RAM On/Off Switch ☆ Compact unit size ☆ Only 8 low power RAM IC's ☆ High reliability

ONLY £42.99

1.5MB RAM BOARD

UPGRADE TO 2MB FOR ONLY £69.99!

Fully populated board increases total RAM in A500 to 2Mb! ☆ Plugs into trapdoor area, & connects to 'GARY' chip ☆ Includes Battery-Backed Real-Time Clock ☆ Socketed RAM ICs on 512K / 1Mb Versions

Unpopulated RAM board with clock .... £ 34.95
With 1.5Mb FASTRAM installed..... £ 69.99

N.B.: The expansion board requires Kickstart 1.3 to operate - Kickstart 1.3 upgrade available from us for £29.95

'MEGABOARD'

With our MEGABOARD, you can further expand your A500's memory to *a total of 2MB* without disposing of your existing 512K upgrade (must be 4 x RAM-chip type, or not exceeding 9cm in length).

CONNECTS TO YOUR 512K RAM UPGRADE TO GIVE 1.5MB

ONLY £47.99

MEGABOARD needs Kickstart 1.3 to operate (Kickstart 1.3 upgrade available from us for £29.95). Installation requires connection to the GARY chip. Easy to follow instructions provided.

ROCGEN GENLOCKS PLUS

OFFERING EXCEPTIONAL VALUE FOR MONEY, the Rocgen Genlock offers levels of quality, function and sophistication not normally available in this price category.

GENLOCK PLUS ONLY £149.99

TOP VALUE 400dpi HANDY SCANNER

Now includes DAATASCAN PROFESSIONAL VERSION 3 and THE PUBLISHER DeskTop Publishing software

QUALITY SCANNING - AT THE RIGHT PRICE!

At a genuine 400dpi scanning resolution, this scanner produces truly superb quality scans. Has a full 105mm scanning width, variable brightness control and 100 / 200 / 300 / 400dpi resolution. **Daatascan Professional Version 3**– scanning and editing software allows real-time scanning in either line art or in up to 64 simulated grey scales. Provides powerful editing features and excellent compatibility with most DTP and Paint Packages, eg. Deluxe Paint 4, Touch-Up. Also supplied is **The Publisher** DeskTop Publishing package, ideal for incorporating your scanned images into flyers and newsletters (not compatible with A1200).

STILL ONLY £99.99

NEW PHILIPS TV/MONITOR

With its dedicated monitor input, this model combines the advantages of a high quality 15" medium resolution colour monitor with the convenience of remote control Teletext TV - at an excellent low price! Features dark glass screen for improved contrast.

£249.00 Including VAT, delivery & cable

Philips CM8833 Mk.II Monitor (Genuine UK version), includes cable, 1 Year on-site maintenance and 'Lotus Esprit Turbo 2' game.......... £ 219.00

VIDI-12 AMIGA NEW REALTIME VERSION

Video digitiser package inc. VIDI-Chrome

ONLY £179.99

3½" EXTERNAL FLOPPY DRIVES

AMAZING LOW PRICE! £52.99 including VAT & delivery

- Very quiet
- Slimline design
- Suits any Amiga
- Cooling vents
- Sleek, high quality metal casing
- Quality Citizen/Sony drive mechanism
- Enable / Disable switch
- Full 880K Formatted Capacity
- Long reach connection cable
- Throughport facility for addition of further drives

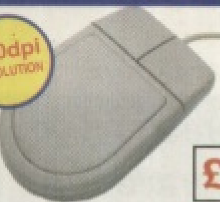
REPLACEMENT A500 INTERNAL 3.5" DRIVE KIT

Fully compatible, with 1Mb unformatted capacity. Straightforward installation procedure. Kit includes full fitting instructions.

ONLY £44.99

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TRUEMOUSE



WE GUARANTEE that this is the smoothest, most responsive and accurate replacement mouse you can buy for the Amiga. Excellent performance, now with a 300dpi resolution. Amazing new price!

£14.99 SATISFACTION GUARANTEED

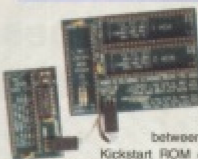
TRACKBALL



High performance trackball, directly compatible to any Amiga or Atari ST. Plugs into mouse or joystick port. Super-smooth and accurate - you probably won't want to use a mouse again after using this Trackball ! Full one-handed control. Top quality opto-mechanical design, giving high speed and accuracy every time. No driver software needed !

ONLY £29.95

A500 ROM SWITCHER



SWITCHING BETWEEN VERSIONS OF KICKSTART ON YOUR A500 IS EASY WITH OUR NEW ROM SWITCHER!

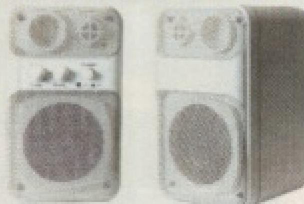
You can improve software compatibility on your A500 Plus! By fitting our ROM switcher, you can alternate between the Kickstart 2 already resident and another version of Kickstart ROM chip, giving you the freedom of choice. Fitting is very simple indeed, and requires *no soldering* or special technical knowledge. Fitting allows two methods of switching; either by keyboard reset, or by an external toggle switch. **N.B. Kickstart ROM not supplied. A500 Revision 5 boards will require circuit modification.**

ONLY £24.95

Kickstart 1.3 ROM supplied separately	only £29.95
Kickstart 2.0 ROM supplied separately	only £39.95
A500 Revision 5 PCB Circuit Modification Service	£29.95

ZY-FI Amplified Stereo Speakers

REALISE THE TRUE SOUND POTENTIAL OF YOUR AMIGA WITH THIS PAIR OF FULL RANGE SPEAKERS !



Your Amiga produces fine quality hi-fi stereo sound. Enjoy quality stereo sound reproduction *to the full* with this new design twin speaker system! Incorporates a built-in amplifier with separate adjustable volume controls for each speaker unit.

Speaker Dimensions 160x95x105mm (HxWxD)

ONLY £39.95

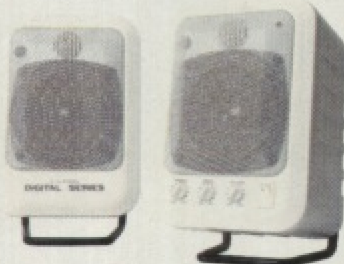
ZY-FI PRO SPEAKERS

EXPERIENCE NEW LEVELS OF AUDIO PERFORMANCE WITH THIS NEW PROFESSIONAL TWIN SPEAKER SYSTEM.

Following the success of the ZY-Fi, these versatile, power amplified, speakers faithfully reproduce a rich expressive sound for the discerning Amiga user.

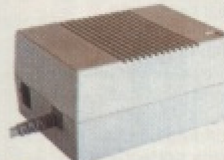
Features 15W/channel, built-in power amplifier with volume control, bass/treble controls, and detachable stands.

Speaker Dimensions 200x140x130mm (HxWxD)



ONLY £59.95

REPLACEMENT POWER SUPPLIES



Genuine Commodore Amiga A500 type replacement Power Supply Unit. Good quality 'switch mode' type. Super low price!

ONLY £39.95

Replacement Power Supply for A590 Hard Disk	£49.95

ACCESSORIES

Virus Protector fits to last drive in system, protectng all drives	£6.95
Amiga 500 Dust Cover	£4.95
Amiga 600 Dust Cover	£4.95

R Reference A500 HARD DISKS

All the features ...without the price

AMIGA FORMAT March 1993 Verdict 84%

"Very attractive indeed – you get a good deal for a decent drive."

40Mb MODEL NOW ONLY £219

100Mb MODEL NOW ONLY £299

2Mb RAM Version: ADD £70.50
4Mb RAM Version: ADD £141.00

- ★ SCSI HARD DISK MECHANISMS for *optimum performance*, fast Access Time & Autoparking
- ★ Includes its own DEDICATED PSU. CBM recommends against use of Hard Disks without independent power supply.
- ★ Option for up to 4MB additional easy RAM EXPANSION, using 'SIMMS'
- ★ COOL.... by popular demand, we have fitted a Cooling Fan!
- ★ GAME SWITCH allows Games to be loaded without disconnection
- ★ Includes SCSI THROUGHPORT at rear for further expansion
- ★ Compatible with Reference Add-On Hard Drive and Reference RAM unit
- ★ High quality metal casing, colour and style matched to the Amiga 500
- ★ Includes 'HD Setup 3' (external SCSI low level format and partition utility) and 'MRBACKUP PRO' (backup utility)

R Reference A500 RAM UNIT

- ☆ RAM access LED
- ☆ RAM test/run switch
- ☆ Uses 1Mb 4-bit ZIPS
- ☆ Style matched to the A500
- ☆ Very low power consumption
- ☆ Throughport for further expansion
- ☆ Compatible with A590 and most other SCSI Hard Drives (please call to check)
- ☆ Optional PSU (allows Amiga to power other devices)
- ☆ Available fitted with 2Mb, 4Mb, or fully populated with 8Mb

Incorporating the latest 'ZIP' DRAM technology, our External Memory Upgrade allows the A500 / A500+ to be upgraded by up to a further 8Mb of auto-configuring FASTRAM.

N.B. Any memory fitted to this unit is in addition to that on your machine already, to a maximum of 8Mb on the external unit.

With 2MB fitted...£112.99 with 4MB...£159.99 with 8MB...£259.99

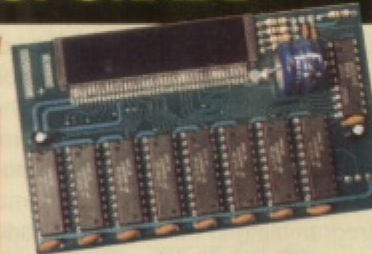
PARTIALLY POPULATED UNITS EXPAND TO 8MB WITH 2MB MODULES, AVAILABLE SEPARATELY AT ONLY £89.99 PER 2MB • OPTIONAL POWER SUPPLY £14.95

A600 1MB RAM/CLOCK UPGRADE

UPGRADE YOUR NEW A600 TO 2Mb WITH THIS SIMPLE PLUG-IN MEMORY UPGRADE!

- ☆ Simply Plugs into the A600's trapdoor expansion area
- ☆ Increases total RAM capacity of A600 to 2Mb 'ChipRAM'
- ☆ RAM Enable / Disable Switch
- ☆ Battery-Backed Real-Time Clock

ONLY £44.99



PRINTERS

Prices Include VAT, Delivery and Connection Cable



Panasonic KX-P2123 The *Quiet* Matrix Printer

The KX-P2123 offers quiet operation, colour, Super Letter Quality printing and extensive paper handling features in a reliable and trusted design. A winning combination at an affordable price.

ONLY £210.33

- **Colour Printing** Create colourful, crisp graphics easily by utilising the KX-P2123's choice of 7 vibrant colours.
- **Quiet Printing** Super quiet 43.5 - 46 dBA sound level (most matrix printers are typically in excess of 60 dBA)
- **Flexible Paper Handling** Excepts single sheets, continuous paper, labels envelopes and multi-part stationery.
- **Fast Printing Speeds** 192 CPS draft, 64 CPS LQ and 32 SLQ.
- **7 Resident Fonts** Create over152,000 type styles by combining fonts, character sizes and an asscrtment of enhancement modes. Resident fonts are using Sans Serif, Super LQ, Courier, Prestige, Bold PS, Roman, and Script.
- **24 PIN Diamond** Printhead high quality output.

NEW! **Hewlett-Packard Deskjet 510**	£ 257.33
Hewlett-Packard Deskjet 500C Colour	£ 304.33
Hewlett-Packard Deskjet 550C Colour	£ 504.08
Canon BJ-10SX Inkjet Printer	£ 233.83
NEW! **Canon BJ-200 Inkjet Printer** 360dpi, upto 240cps, 8 fonts, 80-sheet feeder, IBM and Epson emulation	£ 339.58
Epson LX400 budget 10" carriage 9-pin 180/25cps	£ 139.00
Epson LQ100 24-pin 180/60cps, 8k buffer	£ 205.00

star ALL EVESHAM MICROS STAR PRINTERS INCLUDE 12 MONTHS ON-SITE WARRANTY

Star LC 20 Successor to LC 10, 4 fonts, 180/44cps	£ 129.99
Star LC 100 Entry level 9-Pin Colour, 4 fonts	£ 168.03
Star LC 200 9-Pin Colour, 4 fonts, 180/45cps	£ 198.58
Star LC 24-100 24-Pin, 5 fonts, 192/64cps	£ 186.83
NEW! **Star LC 24-20 MkII** 24-Pin, 210cps high speed draft	£ 229.13
Star LC 24-200C Superb 24-Pin Colour, 5 fonts, 200/67cps	£ 276.13
Automatic Sheet Feeder for 10" LC printers (pls.state model)	£ 64.95

THE SHOOT-'EM-UP CONSTRUCTION KIT!

A couple of years ago, a piece of software was released that was so revolutionary, so different, so exciting that it earned its programmers a place in history. For the first time, the user could create the kind of games they wanted to play. Now, you can too...

CU AMIGA have offered you some of the best packages around when it comes to enabling you to create the kind of games and utilities you want to use. You've had AMOS, complete with compiler. You've had *Art Department 4*. You've had *Hyperbook*. Now CU can offer you one of the most popular game creation packages ever. It's easier to use than Workbench! It's got more options than a new Ford! It'll cost you less than a litre of air! Yes, the one, the only *Shoot-Em-Up Construction Kit* from Sensible Software – the people who brought you *Wizball* and *Sensible Soccer* – is completely gratis on the next cover of CU AMIGA.

Have you ever fancied writing the next *Project X*, but don't know where to start? Have you ever wanted to recreate your old arcade favourites, or try to come up with something really challenging?

Well, now's your chance. *The Shoot-Em-Up Construction Kit* lets you piece together sprites, backdrops and sound effects and turn them into the hottest games around. What's more, you don't need a degree in graphic art, mathematics or programming to be able to take advantage of its many features. Basically, if you can move a joystick and know your way around a mouse, then you can create a shoot 'em-up game!

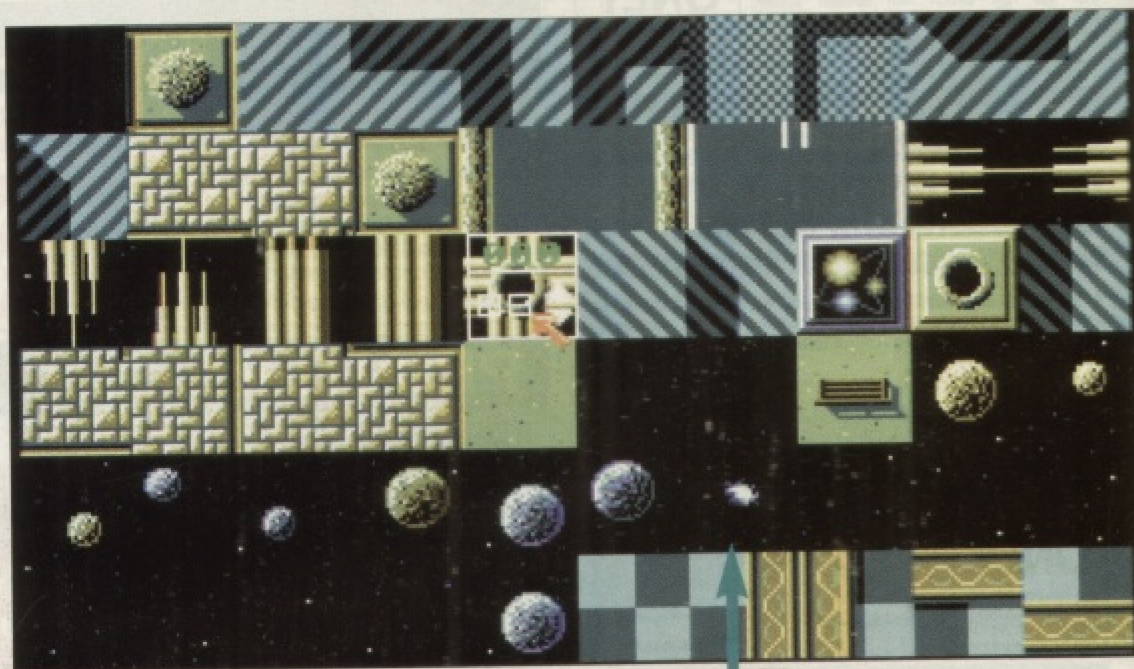
But won't I need access to all sorts of things, I hear you cry, such as expensive art packages to create the illustrious sprites, and professional sound packages to create the sound effects? No, not at all! Everything you could possibly need is included in the package, from sprite designers to backdrop plotters to sound effect generators. It has to be the most complete game creator ever! And it's free on next month's CU! Be there!

A GAME IN 5 EASY STEPS



STAGE 1

The first thing you'll want to do when putting your game together is design the sprites themselves. You can build everything with this simple plotter from spaceships to bullets to explosions and beyond. This is a really easy package to use; there are loads of tools all of which are clearly defined as to what they do in order to help you create your sprites.



STAGE 2

Still working with the graphics, it's time we moved onto the backdrop.

The backdrop is defined using a set of blocks, each 32 pixels by 32 pixels. This can be a little tricky, as you will find yourself building blocks that have to match perfectly at the edges. Then, they are stuck down next to each other and the computer does the rest for you!

THE BOYS FROM THE BLACK STUFF

Sensible Software have always had one hell of a reputation, even back in the days of the Commodore 64 when *Wizball* caused a major storm. The release of SEUCK brought them further into the public eye.

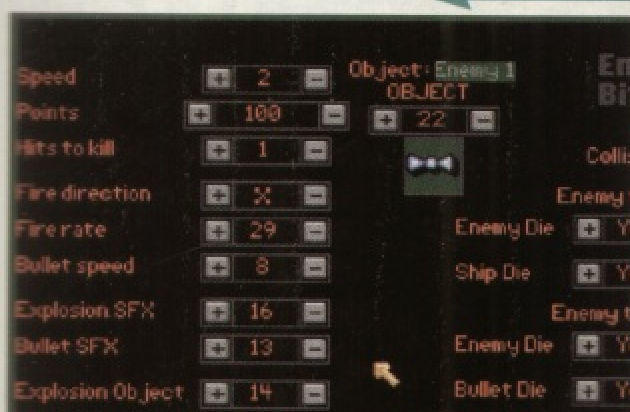
Chris Yates remembers the days when he, and fellow Sensibles released the game that captured the imagination of thousands: 'The ethos behind it was that we had lots of utilities for writing games, and decided it would be a good idea to bundle them together and release them to the public so that everyone could have fun making games. It only took about six months to make, as well, as we had most of the routines already written.'

It was received brilliantly, too, as everyone joined in the shoot 'em up rush. 'It was just a really good idea, and everyone loved it. Basically, it was a ground breaking piece of programming.' One that Sensible are quite justifiably proud of.

STAGE 3

So, now you've got bunch of sprites and a working background. What next? Now you need to tell the computer which sprites do what.

Using the Object Definer you can label sprites with names like 'Enemy 1', 'Explosion 2', 'Bullet 3' and the computer will take note of what does what.



STAGE 5

And now the finished product with everything in place and the enemy attributes set to be as aggressive as you desire.

Once the game has been completed to your satisfaction, you can save the whole thing out as a self-running file, which you can then pass on to your mates or put onto the Public Domain market. You never know, it might even be good enough to be released commercially!





STAGE 4

Next we piece together the alien attack waves. This is probably the easiest part of the whole construction process. All you need to do is tell the computer at which point on the map the enemies enter from and then draw their movements by shifting them about with the joystick. The program records your movements exactly, and simply replays them when you play the game.

ALSO NEXT MONTH...

Get ready for a fight and a half as CU blows the competition off the shelves, with not one, but two whole playable demos of the hottest and hardest games this Christmas on next month's games disk.



Pull on your silly trousers and get ready to bite the blood capsule as Acclaim's stunning conversion of *Mortal Kombat* comes to your screens. It's bad, it's bloody and it's brutal. To be this hard takes ages, but it takes even longer to keep this far ahead of the competition.

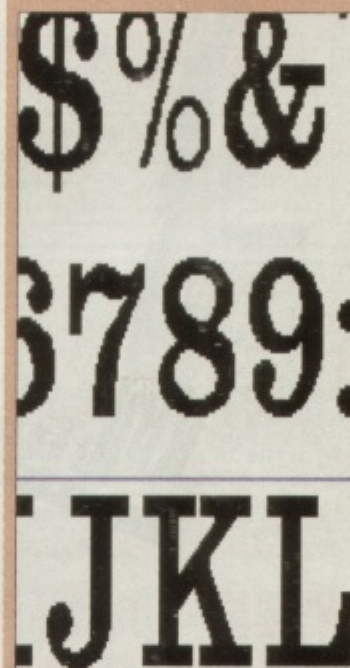


Of course, if you fancy your action with a little more metal, then how about an exclusive playable demo of Virgin's *Terminator 2*. The conversion of the arcade machine of the same name, *T2* places you in the role of Arnie, looking down the barrel of your Uzi and blazing away, *Operation Thunderbolt* style, causing mayhem and destruction like only Killer Zombies know how. Get your trigger finger oiled, because it's coming, and it's going to be big.

FONT GRABBER

One of the most important things to have if you're dealing with DTP, word processing or general graphic work is a good selection of fonts. However, unless you're willing to shell out, good quality fonts are hard to come by. That is, of course, until next month when we give you the full working copy of Genisoft's *Font Grabber*. It converts screen fonts into bitmap fonts, so you can take any on screen lettering or image, and create a working font with it!

Using it is as easy as pie. Just load an IFF screen with the font you want to grab in place, and then drag a box over each character, and *Font Grabber* will decide how to frame the letters and save them out as a font file. A lot easier than using a font designer, and it can handle any IFF screen, be it from an art package or scanned in from a newspaper. Anything can be turned into a font, from straightforward characters to graphic icons, so you can even build up a collection of personalised dingbats! It's the package you've always needed, and it's on next month's CU AMIGA's coverdisk.



SOMETHING Wonderful IS ABOUT TO HAPPEN!

A NEW MAGAZINE FOR THE AMIGA IS LAUNCHED ON THE 24TH NOVEMBER

DO NOT adjust your copy of CU AMIGA. We're going to tell you about a completely new magazine dedicated to the Amiga. Why should we want to tell you about a rival publication? Because it's been written by the CU AMIGA team and we're all rather excited about it.

Inside its 180-packed pages, you'll find literally hundreds of product reviews covering everything from the top Amiga games through to the best graphics and music packages available. What's more there will also be a comprehensive hardware section, covering everything from memory expansions, external drives and hard drives through to mice, joysticks and accelerator cards. But that's not all – there will also be chapters devoted to the CD32 and CDTV, Amiga books, Programming, DTP, DTV, Education and Business software.

The Ultimate Amiga Buyer's Guide '94 is jam-packed with expert opinion on which Amiga packages are worth buying – and which ones are best left on the shelves! We've reviewed and rated all the top Amiga products so you'll know which packages offer outstanding value for money and which ones don't. It's the buyer's guide to end all buyer's guides from the team you know you can trust to speak out against poor quality software.

The Ultimate Amiga Buyer's Guide '94 is your definitive one stop guide to all you need to know about Amiga software and hardware.

DON'T MISS IT.



THE ULTIMATE AMIGA BUYER'S GUIDE '94
ON SALE 24TH NOVEMBER - ORDER YOUR COPY TODAY!

RICOH LP1200 PCL5 LASER PRINTER

400DPI 2Mb RAM 6PPM £599 + VAT

A4 TEXT/A5 GRAPHICS @ 400dpi • A4 GRAPHICS @ 300dpi. A 2Mb RAM UPGRADE IS REQUIRED TO PRINT A FULL A4 PAGE OF GRAPHICS AT 400dpi

HP LASERJET III™ COMPATIBLE • FLASH ROM UPGRADEABLE!

Ricoh, have used their expertise to produce a 'first' in laser printers, the LP1200 with FLASH ROM. HP LaserJet III™ compatible, the LP1200 employs industry proven laser technology which, unlike LED printers, uses a laser light source to produce the most accurate and intense printed images at a range of print resolutions up to 400dpi. A fast efficient processor and engine, plus a straight paper path design allows printing at a full 6 pages per minute. The 2Mb RAM version prints a full A4 page of text or graphics at 300dpi. Using standard resident fonts and the alternate controller firmware supplied, it can also print an A4 page of text or A5 page of graphics at 400dpi and, using the Windows driver supplied, an A4 page of text at 400dpi from Windows 3.1.



SHOWN WITH UNIVERSAL FEEDER TOP TRAY (OPTIONAL EXTRA)

PC MAGAZINE UK EDITOR'S CHOICE OCTOBER '92

COMPUTER SHOPPER BEST BUY AUGUST '92

PC TODAY BEST BUY OCTOBER '92

AMIGA GOLD

LASER PRINTER AWARDS What to Buy for business

The 4Mb RAM version can print a full A4 page of graphics at 400 dpi and makes full use of the LP1200's 400 dpi printing capabilities, such as using Microsoft Windows fonts. Unique additional standard features include FLASH ROM 'future proof' technology and LAYOUT - a powerful document description language. The LP1200's unique internal FLASH ROM, which holds the printer controller firmware, can easily be updated as new developments in technology occur. This protects the investment you make in buying a Ricoh LP1200. Other manufacturers would require you to buy a new printer! Internal FLASH ROM and industry standard FLASH ROM PCMCIA cards can also be used to permanently store fonts, macros, graphics and extra emulations. Again, unlike the competition, the LP1200 includes LAYOUT, a powerful and intuitive document description language as standard. This offers unique opportunities to develop custom made printing systems. Forms and document templates can be designed complete with logos and stored electronically in the LP1200's FLASH ROM, alleviating the need for pre-printed forms!

The LP1200 comes with a 100 sheet A4 paper tray as standard. An optional universal feeder automatically feeds up to 150 sheets of paper (up to 169gsm), 15 envelopes, transparencies and labels.

PLAIN PAPER FAX OPTION ONLY £120

The LP1200 is the World's First Laser Printer to have the option of being upgraded to a PC independent plain paper fax. Just download the software (£120+VAT) into the LP1200's Flash ROM and connect any fax/modem to the Serial Port (we recommend the Pace Microlin FX - £180+VAT). Using the Windows and DOS software supplied you can send and receive Laser quality faxes all over the world!

FAX/MODEM SOFTWARE FEATURES - £120+VAT - FAX 1200

- Combine 2 or 4 faxes onto one page (A4)
- Greyscales, 3 types of images - Photographic, Line Art, Ricoh Scanned
- Phone number directory (using Windows driver)
- Broadcast (using Windows driver)
- Windows and DOS version
- Receive faxes when PC is switched off
- Use printer for printing while receiving faxes in background mode
- Use LaserJet or Layout protocol documents
- Send faxes from any Windows application

MODEM/HARDWARE FEATURES - £180+VAT - MOD 7199

- CCITT Group 3 send/receive
- Laser quality output
- Automatic retry on busy (x3)
- Memory useable - 2Mb (upgradeable to 4Mb)
- Document macros
- PCMCIA/Intel flash card firmware module available
- A4 paper - but can receive A3 pages scaled down to A4 - 300 dpi. Can send A4 pages scaled upto A3 - 300 dpi
- Out of paper receive
- 9600 baud Fax modem
- 2400 baud Data modem
- Hayes compatible - UK manufacture
- 5 year warranty on modem
- Includes: fax/modem, software, mains adaptor, serial cables, PSTN connection lead and manuals

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- ***400dpi RESOLUTION*** — *(Default res. - 300dpi. Will address 200, 240 & 400dpi)*
- ***UNIQUE FLASH ROM*** — *For controller upgrade and storage*
- ***PCMCIA CARD SLOT*** *(PCMCIA/JEIDA Compatible)* — *For programmable FLASH ROM cards*
- ***EXPANSION BOARD SLOT*** — *For improved connectivity eg. Coax/Twinax, PC-LAN etc*
- ***LAYOUT*** *Document Description Language*
- ***SERIAL + PARALLEL PORTS***
- ***1 YEAR ON-SITE WARRANTY*** — *Next working day response*

FREE DELIVERY

LP1200 WITH SINGLE BIN & 2Mb RAM — LAS 5200 — **£599** + VAT = £703.83

FEATURES	IBM 4029-020	FUJITSU VM600	CANON LBP-4 PLUS	STAR 8III	RICOH LP1200
Average Street Price (excl. VAT)	£929	£699	£659	£899	£699
Maximum resolution in dots per inch	300 x 300	300 x 300	300 x 300	300 x 300	400 x 400
Windows 3 Driver @ 400 dpi	-	-	-	-	YES
Print Speed	6ppm	6ppm	4ppm	8ppm	6ppm
Straight Paper Path	-	NO	(ONLY FACE UP)	YES	YES
PCL 5 Printer Command Language	-	YES	-	YES	YES
HP-GL/2 Vector Graphics included	YES	YES	-	YES	YES
Resolution Improvement/Enhancement	YES	YES	YES	YES	YES
Standard RAM	1Mb	1Mb	512K	1Mb	2Mb
Full A4/300 dpi graphics with standard RAM	-	-	-	-	YES
Warm Up Time	33 secs	25 secs	<60 secs	60 secs	45 secs
First Page of Text Output		15 secs	31 secs	18 secs	<15 secs
Document Description Language included	-	-	-	-	YES
Flash ROM	-	-	-	-	YES
Flash ROM Upgradeable Firmware	-	-	-	-	YES
PCMCIA Card Slot	-	-	-	-	YES
Scaleable Resident Fonts - in HP LJ III Emulation	0	8	0	8	8
Resident Bit-Mapped Fonts	10	14	2	14	14
AGFA Intellifont Scaleable Font Technology	-	YES	-	YES	YES
HP LaserJet III Emulation Included	-	YES	-	YES	YES
EPSON FX Emulation Included	-	YES	YES	YES	YES
IBM ProPrinter Emulation Included	-	YES	YES	YES	YES
Standard Tray Capacity	200	150	70	200	100
Protective cover on standard tray	YES	-	YES	YES	YES
Cost per copy**	1.9p	2.0p	2.1p	2.2p	1.65p
Min-Max Paper Weight in gsm	60-163	60-157	60-105	60-135	60-169
Able to print on OHP Film	YES	YES	YES	YES	YES
Able to print on 169gsm card (Manual Feed)	-	-	-	-	YES
Standby - Noise Level	38dB(A)	35dB(A)	<43dB(A)	<43dB(A)	<38dB
Printing - Noise Level	50dB(A)	46dB(A)	<53dB(A)	<53dB(A)	<48dB
PC Independent PLAIN PAPER FAX OPTION	-	-	-	-	YES

**As quoted by manufacturers - July '93

E&OE All Trademarks are acknowledged

CONSUMABLES + ACCESSORIES

PRODUCT CODE	PRODUCT DESCRIPTION	PRICE EXC VAT
CAB 7500	Cable for PC/ST/Amiga	£8.47
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... Texas - Zimbabwe, autoboots! +Y
...LES, good pictures, autoboots! +Y
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...CRAFT, 1-26, assorted, autoboots! +Y
...CRAFT, 27-32 & Cars! autoboots! +Y
... 1-12 Super pictures, autoboots! +Y
... 13-29 More avian pictures! +Y
... 30-41 Lots more birds,autoboots! +Y
... Many more bird pics, autoboots! +Y
... And some more fab pictures! +Y
... 116-130 Some good pictures! +Y
... 131-138 More bird pictures! +Y
... More superb pictures here! +Y
... 1-16 Super cat pics,autoboots! +Y
...OGS, 1-126 Super dog pics,8 disks! +Y
...ORERS 1-13 famous explorers,autoboots+y
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...WERS 14-25 More flower pics,autoboots!+y
...WERS 26-37 More flower pics,autoboots!+y
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CCL094 TREES 57-70 trees lots of tress,autoboots!+y
CCL095 TREES 71-84 more tree pictures, autoboots!+y
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BG009 EMERALD MINES 09
BG010 EMERALD MINES 10
BG011 EMERALD MINES 11
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BG013 EMERALD MINES 13
BG014 EMERALD MINES 14
BG015 EMERALD MINES 15
BG016 NO ONE MINES 01
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BG031 EASY RUPPLE MINE
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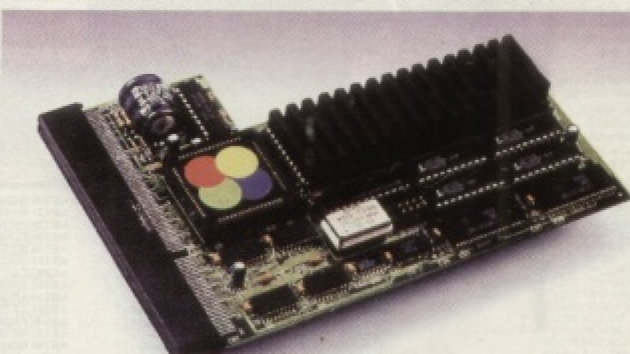
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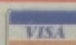
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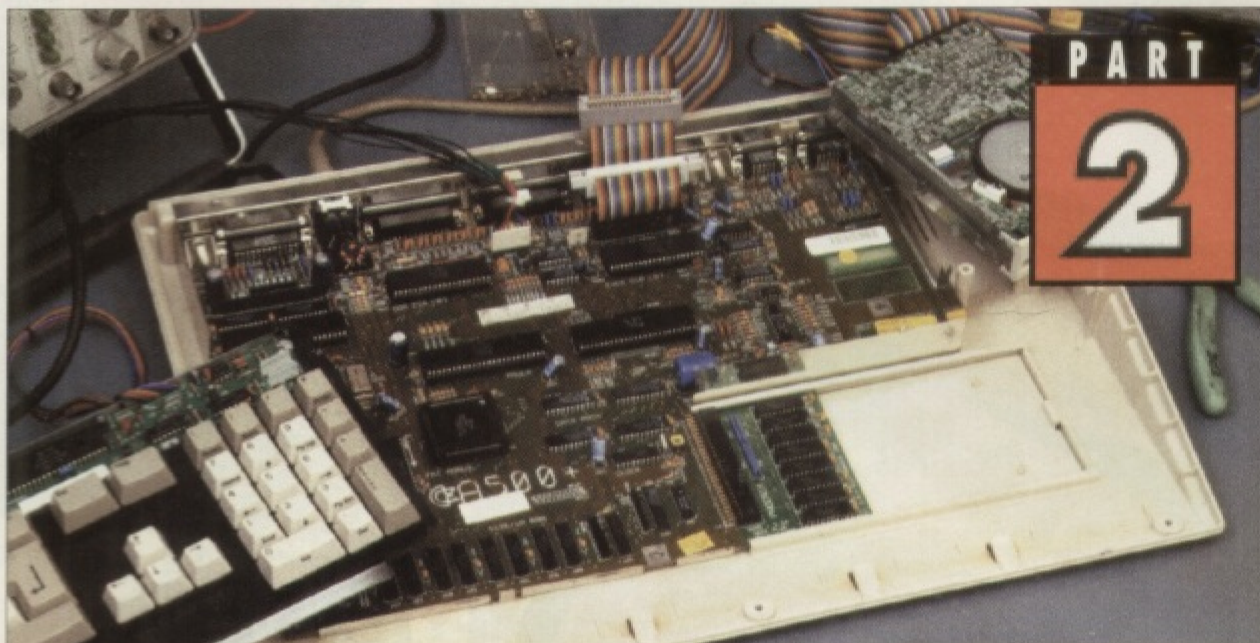
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A day at THE WORKSHOP

Here at CU Amiga, we use so many Amiga computers that it's inevitable that they'll go wrong from time to time. We thought that you might like to come along to our local repair shop to see exactly what happens when you send your computer off to be fixed.



A PROCESS OF ELIMINATION
Certain faults can easily be identified using a process of elimination. To help with this HCS have a variety of parts which are known to work perfectly. These include extra keyboards, disk drives and other components. When the engineers need to establish that a particular component is faulty, they simply replace it with their own test version and if the machine works properly, than the other component was at fault.



HCS deal with Amigas from all over the world and claim to be the fastest Amiga repairers in the country. Like most computer repairers they are primarily geared towards mail order repairs, however, they also have a small shop where you can take your sick machine to if you're in a rush to have it repaired. We wanted to put them to the test so we took along a number of items including an A500 with a faulty display and a faulty monitor.

10.00: The first stage in the repair process is to get the machine logged in. This morning, Zoltan Szemes is on the front desk so he gets the job. He books the machine in on the computer and types in a description of the fault and all known symptoms. This is then printed out on a form which will accompany the machine around the workshop at all stages.

To make sure that you get back everything that you brought with you in the first place, Zoltan puts tags and labels onto the computer and any other bits that you bring in.

10.05: The computer is taken to the storage rack where it will wait until an engineer is ready to repair it. Before it's racked up, the casing is opened.

10.15: An engineer is ready to examine the computer. In this case the engineer is John Szemes. He gives the computer a preliminary look over. HCS use a powerful computer-based multi-level diagnostic system as the first step in diagnosing faults. Although there are hundreds of possible things that can go wrong with a computer, the majority of the time it will be one of a small number of common faults that brings the Amiga into HCS' workshops.



Apart from using the computer to diagnose faults, John also performs repairs. Here we see him replacing a chip socket on CU's motherboard.

At this stage, John enters the symptoms of the problem, starting with the most obvious ones. Each time he enters a symptom, the computer will eliminate certain possible faults. It may also ask him questions to clarify the situation. Nine times out of ten, by the time John has finished here, he'll know exactly what the fault is and using a combination of his experience and the computer's advice, he'll know how to fix the problem.

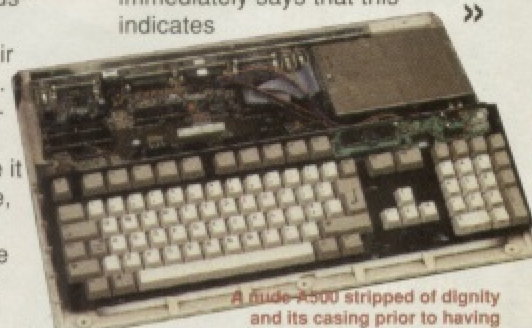
Naturally, our A500 manages to have a strange combination of symptoms which makes absolute diagnosis very difficult!

10.25: Whether or not the fault has been precisely identified, the computer is now passed to the repair bench where a technician will use the information provided by John to try and duplicate the fault. They do this to confirm the customer's assessment of the symptoms and to confirm their diagnosis of the best remedy.

Apparently, the worst possible fault is one which only occurs intermittently because it can be hard, if not impossible, to reproduce on demand. Naturally, this was exactly the type of fault that CU Amiga's computer had!

In cases with this type of fault which only occurs intermittently, some repair companies assume that the customers do not know what they are talking about, but Peter Jones, HCS managing director says, 'We always assume that there's a fault, even if we can't see it. After all, who'd bother with the expense of getting their computer repaired if it wasn't doing something wrong?'

So, to help track down the fault there are ways to exacerbate certain faults, and make them show up when they might not otherwise. The first of these is the 'tap test'. Simply by tapping the computer on the work top, the engineers may be able to check for loose chips. They try this on our machine and the drive whirred as if looking for a disk. Peter immediately says that this indicates »



A nude A500 stripped of dignity and its casing prior to having new sockets soldered onto it.



This is where computers are soak tested to find evasive faults.

that the disk sensor is dirty, so, one quick clean later and no more whirring drives. However, the main fault still hasn't shown itself, so it's time to try the hot air treatment. This involves blasting the chips and computer motherboard with hot air. This makes the computer's components expand and if chip cases are cracked or chips are badly fitting, they will often show up at this point. Of course, CU's A500 just sits there acting as if it was incapable of going wrong!

10.55: By this stage things are getting serious so the team has to resort to what's known as a soak test. This involves connecting the Amiga to a monitor, switching it on and leaving it there for several hours in the hope that the problem would manifest itself.

1.15: The problem still hasn't show up so it's back to the computer to get some advice. By typing in the symptoms, the computer gives a list of all components that might be responsible. In a case like this one, rather than spend any more expensive time on diagnostics, HCS find it cheaper to simply replace or clean every part of the computer that is likely to be connected to the problem. In our case this means changing the Agnus and Kickstart sockets, which they do.

1.30: The computer's fixed. It's logged out of the computer, and we can take it away now.

We've now used the computer for several weeks without a single problem, so we can safely assume that HCS did the job properly. Thanks guys.

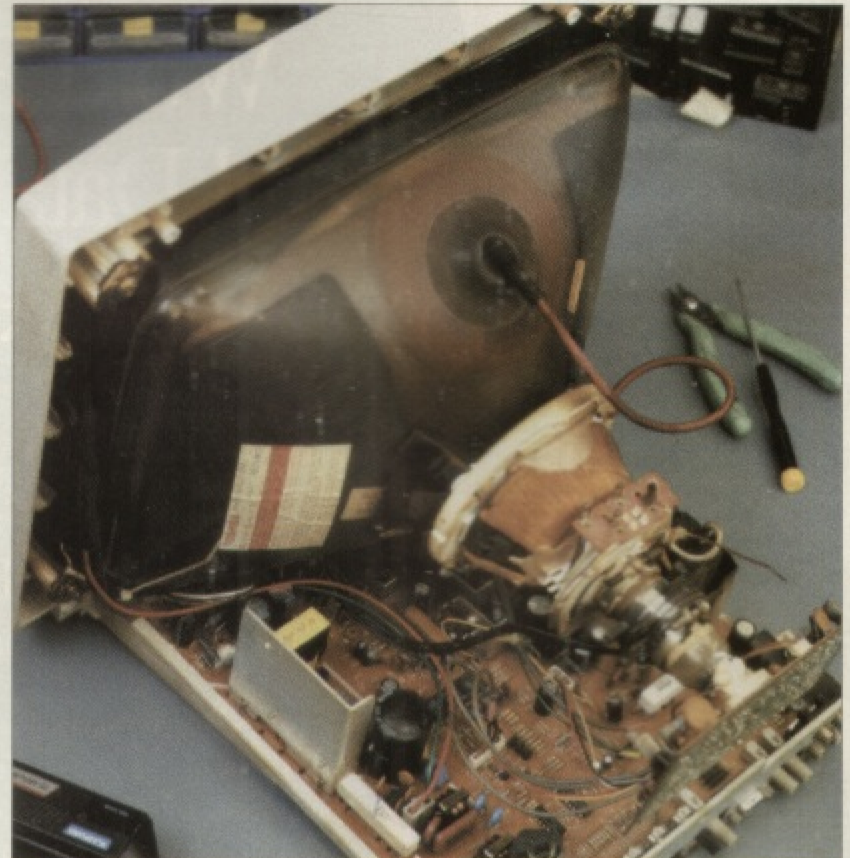
You can telephone HCS on 071 252 3533.

Here are the guys at HCS waiting to repair your poorly computers!



NEXT MONTH

You've heard all about viruses, you might even have one! Find out what to do next issue.



NOW FOR OUR MONITOR...

John looks at the fault sheet to see what problem we've reported with our faulty monitor and reads: 'When you switch it on, the power light flickers briefly but no power reaches the screen'. This problem is obviously a common one because he doesn't waste time going to the computer database. 'It's a problem with the power switch he says,' straight away and begins to open the back of the monitor.

'We wouldn't really recommend people to start messing about inside their monitors or TVs. These things pump well over ten thousand volts to the CRT (Cathode ray tube) and even long after they're switched off, they can give you a very serious jolt if you touch the wrong bit.' I nod knowingly having electrocuted myself on a TV which had been turned off and unplugged for hours.

Having opened our monitor John heads straight for the switch assembly with a pair of voltage testers. Three seconds later, he's confirmed his suspicions and within five minutes we have a perfectly working monitor as John simply swaps the entire switch assembly for a new one.

Top Ten Faults

As I said earlier, most Amiga problems come from a relatively small list of recurring faults. Here's HCS' top ten so that you can work out what's wrong if you ever have a problem:

SYMPTOM	LIKELY AREA OF FAULT	HINTS	LIKELY REPAIR PRICE	COMMENT
1 Nothing will load.	1 NDrive mechanism faulty or controlling chips (the CIA or Gary).	1 Inserting the disks too roughly can knock the heads out of alignment. You can also do damage if you plug the external drive in while the machine's switched on.	1. £28.00 –£71.99	1 Replacement drives between £54.99 and £71.99
2 The Amiga seems dead. The screen is black.	2 Too many faults too mention.	2 Anything can cause this ranging from using the computer during electrical storms to dropping it. This isn't as bad as it seems because 90% of faults like this can be fixed by replacing a single component.	2. £26.00 –£65.00	2 The Agnus is the most expensive chip in the Amiga. Perhaps now is a good time to upgrade?
3 Keyboard not working. The caps Lock light is flashing.	3 Keyboard membrane or chips (6570).	3 Spilling liquid into keyboard. Remember, your Amiga is not a coffee table!	3. £28.00 –£65.00	3 £65.00 = total replacement keyboard
4 Computer not working. Screen goes green when you switch on.	4 Memory-related fault. (Agnus, RAM chips).	4 Keep trap-door slot covered and be careful when plugging in memory upgrades.	4. £28.00 –£65.00	4 See comment 2.
5 Amiga seems dead. (No power light)	5 Power supply or power feed circuitry.	5 Don't cover the power supply with anything. It generates a lot of heat which needs to be dissipated.	5. £22.50 –£40.00	5 £23.50 = power supply repair.
6 Amiga seems dead. (Power light on)	6 Video circuitry (Denise or Video hybrid) or modulator.	6 Secure the modulator into the Amiga. To avoid it being knocked out, buy extension leads.	6. £23.50 – £45.50	6 £23.50 = modulator repair.
7 No response from mouse.	7 Mouse controllers (Denise).	7 Original Amiga mice have a metal strip around the plug. Careful not to touch the pins with this strip when plugging the mouse in.	7. £26.00 –£45.00	
8 No sound or sound is distorted.	8 Modulator, Paula, Power supply.	8 Be careful when plugging your phone leads in.	8. £26.00 –£42.50	
9 Printer or sound sampler playing up.	9 Parallel port (either of the CIA's)	9 Connecting the printer while the computer is switched on is a definite no, no.	9. £26.00 –£42.50	
10 Modem or MIDI interface playing up.	10 Serial port (1488, 1489, Paula, CIA).	10 Don't connect a modem whilst the power is switched on.	10. £26.00 –£48.50	

PLEASE NOTE.

Although the most likely causes for each fault are shown, there are many other possible causes, not to mention good old wear and tear, which affects the best of computers. It's also worth noting that the repair costs quoted are just the ones used by HCS Engineering; other companies may have different rates.

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NEW TITLES

G264 **ELEVATION II** - Cute and colourful platform romp.
G265 **BONDMINE 13** - Boulder Dash at it's very best!
U300 **NCOMM V3.0** - Brand new version of this incredible comms package for Amiga modem users. The most popular one around.
S96/S97 **(2 DISKS) SHED TEARS** - Fantasy slideshow using the AGA chipset. ·A1200 ONLY·.
G266 **GALAXY '93** - Looks like Galaxians. Nice scrolling back drop. ·NOT A500·.
U301 **AREXX USERS REFERENCE MANUAL** - Extensive manual on the AREXX programming language. ·NOT A500·.
G267 **BLOCKSTER** - Tron Light Cycles game with screen designer.
E53 **CHILDRENS FAVOURITES 2** - Six nursey rhymes with pictures, words and music to sing-a-long to.
U302 **AMOS Ncommand Designer v2.03** - Create Workbench 2.0 style front ends for your Amos programmes without the hassle. You design the screen with menus, buttons etc.. and save the source code and then simply load it into *AMOS*.
G268 **SLAMBALL** - Futuristic management game based on Speedball.
T32 **ABNORMLIA ISSUE 3** - The alternative disk magazine. No Amiga Features. From UFO's to Beer. Very weird.
E54 **STIRLING ENGINE ANIMATION** - Detailed cross section animation of a Stirling engine.
U303 **INVENTORY v2** - Business software to hold information on stock control, staff wages, plus a database for other information.
E55 **COMMUNICATE** - Learning tool for eight forms of non-verbal communications. Including sign language, morse code, braile, etc.
E56/E57 **(2 DISKS) AMERICAN FOOTBALL** - Massive tutorial on the complex rules and strategies used within this sport.
G269/G270 (2 DISKS) **18th HOLE** - Brilliant Golf game for 1 or 2 players.
S98 **SATURNE '93 SLIDESHOW** - Many pictures of different styles and subjects, from fantasy to Japanese cartoons. All V.good.
S99 **JURASSIC PARALAX** - Brilliant slideshow of many vicious Dinosaurs with added text information on their characteristics.
G271 **JELLY QUEST** - Highly rated 3D isometric arcade puzzle game against the clock.
U304 **TEXT ENGINE v4.1** - The BEST PD word processor just got better. Includes fully intergrated spell checker. A must!
U305 **SUPERVIEWER v2.4** - Slideshow creator with examples.
U306 **ELECTRONICS CAD** - Two programmes: ElectroCAD and Prototyper. Computer Aided Design programmes for Electronic projects. V.Good.
U307 **AMOS PRINTER ROUTINE** - Custom GFX printer routines for your Amos programming projects.
U308 **CG FONTS COLLECTION VOLUME 4** - Thirteen more Compugraphic fonts for DTP and Word Processors which use them.
T33 **RAGE ISSUE #2** - Disk magazine with News, reviews, Amos Help, Amiga DOS commands help, plus much more......
M141 **EAT THE BRICK** - Parody of Rave music!!!!!!
A159 **AIR ASSAULT** - Similar to Eric Schwartz's "ATF Agility" animation.
U309 **EASYCALC V1.0a** - The Best Shareware Spreadsheet money can buy. Look no further if you require one!!!
U310 **PAY ADVICE ANALYSER V3.00** - Latest version of this personal wages/salary database. Now faster and added features.
D162 **FRONTIER: ELITE II DEMO** - Rolling demo of this incredible game. Wow.
G272 **ASSASINS GAMES VOL # 136** - Hot Blox, Super Pong, Snifburk.
G273/274 (2 DISKS) **STARBASE 13** - Graphic adventure in the style of Monkey Island/Future Wars. Superb.
E58 **DESERT STORM HYPERBOOK** - Detailed account of the 100 hour ground offensive with maps and all.
A160 **GET FROGGED** - Amusing singing and dancing Frog routine. Warner Bros style.
U311 **EASYCALC PLUS** - Enhanced version of the EasyCalc spread sheet with pie charts, bar graphs etc.. ·NOT A500·
E59 **STARVIEW** - Displays all the visible planets, stars and constellations from any location on earth, at any time. Zoom facilities, and Star search feature. Excellent piece of software.
G275 **POPEYE** - Conversion of the classic C64 arcade game. ·A500 ONLY·
A161 **3 WAYS TO STOP SMOKING** - Give me nicotine patches any day. Sick humour. ·REQUIRES 1.5 MEGABYTES·
E60 **CODE MUNGUS** - Highway code tester. Sign posts and verbal questions. Very good indeed.
E61 **WORLD GEOGRAPHY** - Interesting computerised Atlas.
A162 **SAVING CERTIFICATE ADVERT** - The Butterfly and frog cartoon from the TV ad.
G276 **THE GREAT ESCAPE OF BILLY BURGLAR** - Super new and original platform game.
G277 **3D GAMES SERIES MK1** - Three 3D Construction Kit games: DIY, OXO, CAR.
G222 **CHESS GAMES** - Two Chess games: GNU Chess, Chess 2.0 and top Chess tips file by an international Chess Grandmaster. Equal to or better than any other commercial Chess game currently around.
G278 **FRIDAY THE 13th PART X** - Run around the rooms and slaughter the inhabitants, but avoid the gun wielding cops.
G279 **MUGSIES REVENGE** - Gangster management game. Based within the prohibition days. Buy booze, set up bars and night clubs and get some henchmen to protect your interests and lots more.
G280 **BLACK DAWN** - Dungeon Master style game with an Alien Breed scenario. Superb graphics and loads of features.
G281 **SUPER PRIX** - overhead racing game with many tracks and car upgrades - for a price!
U312 **BUDBASE 1.2** - Ex CLR title, now Public Domain. Database which isn't restricted to memory size as data is read or written directly to disk each time (also hard drives), like commercial ones.
E62/63 (2 DISKS) **READ AND LEARN VOL.1** - Disk based story book for infants, with pictures, easy read text and digitised speech. The story of 'The Three Little Pigs'.
E64 **THE WORD FACTORY** - Neat spelling games for youngsters.
U313 **AGA UTILITIES** - Loads of A1200 only programmes eg: Kill AGA, Plasma, AGA Test, Check AGA, etc.. 25 progs in all.

EDUCATION

E3 **SUN CALCULATOR** - Calculates the sunrise and sunset times within a 2 minute accuracy.
E12 **UNITS** - Conversion programme. Includes:Speed, Volume, Mass, Time, Force, Density, Angles, Light, etc.....
E16 **CHESS TUTOR** - 4 Chess programmes from learning the game to taking part in classic games of history past.
E23 **TOTAL CONCEPTS - ASTRONOMY** - Loads of interest ing facts and beautiful digitised stills.
E24 **TOTAL CONCEPTS - DINOSAURS** - Want to learn about prehistoric Earth. Get this.
E32 **MOLEC 3D** - Generates 3D represention of molecules. Up to 500 atoms at a time.
E36 **STEAM ENGINE ANIMATION** - Detailed, labeled animation of a Steam Engine.
E37 **FOUR STROKE PETROL ENGINE ANIMATION** - More of the same.
E42 **GAS TURBINE ANIMATION** - Plane engine animation.
E52 **COLOUR THE ALPHABET 2** - Familiarise kids with the alphabet, with digitised speech instructions. Excellent.
E43 **WW2 HISTORY BOOK** - Multi-media account of World War 2 account. Text and pictures.
E46 **LITTLE TRAVELLER** - Useful information on the worlds popular travel spots right down to electrical voltage.
E41 **FRACTIONS** - Maths teaching and testing programme.
E44 **THE MATHS ADVENTURE** - Maths problems intergrated into an adventure game.
E49/50/51 (3 DISKS) **DESKTOP GUIDE TO ELECTRONIC MUSIC** - Massive guide on all you wanted to know about music sythesis. Visual, audible - sound examples and speech.

BUSINESS SOFTWARE

U135 **600 BUSINESS LETTERS** - Hundreds of laid out letters for every business and personal occasions. Inc, Job applications, complaints, etc.. Files load into any Word processor.
U166 **A-GRAPH V1.0** - Input data for instant graphs, bar charts, pie charts etc.. Data is saved as an IFF file.
U209 **FORMS UNLIMITED V1.04** - Form designer and printing tool. For invoices or similar items.
U242 **LAST WILL AND TESTAMENT** - Write your own will, includes word processor.
U265 **JOURNAL V2.00** - Organise your personal finances like a detailed bank statement. Easy to use.
U273 **ACCOUNT MASTER V2.1** - More complex than Journal and has features that match commercial programmes which offer these facilities. The foremost *Amiga PD* personal accounts program.
U288 **PAY ADVICE ANALYSER V2.0** - Richard Smedley's latest release of this pay slip databse.
U304 **TEXT ENGINE v4.1** - The best PD word processor with inergrated spell checker. Note the up-to-date release version.

GRAPHICS UTILITIES

U1 **ULITMATE ICON DISK** - Edit or draw you own icons. Even import/export graphics from any IFF package. Eg Dpaint or Freepaint. Massive directories of example icons included.
U3 **M-CAD** - Public Domain Computer Aided Design package.
U9 **C-LIGHT** - Ex-commercial Raytracer, now shareware.
U54/55 (2 DISKS) **VIDEO UTILITIES** - 2 packed disks full of video titling programmes covering most aspects of the subject.
U62 **SCENE GENERATOR** - Fractal landscape generator like Vista; but without the heavy price tag.
U102 **AMIGA FOX** - Basic entry level desktop publisher.
U113 **SPECTRA PAINT v3.0** - Good AMOS written IFF paint programme.
U115 **LAND BUILD 3.2** - Another superb fractal landscape generator. Realistic random effects: Mountains, water, clouds, etc....
U142 **FREEPAINT** - The highly regarded PD paint package. The next best alternative if you can't affford Deluxe Paint.
U154 **AUDIO ANIMATION** - Animation and sound programme.
U187 **MOBED2** - Sprite creator/animator. Essential programmers art tool.
U190 **GATORS GRAPHIC GALLERY** - Tutorial with many examples of how to design and draw super logos, like in the demos.
U208 **CYCLOPS** - Plasma picture generator. Weird!
U271 **POLYED V1.0** - Polygon orientated animation programme.
U285 **sMOVIE** - Video titling.
U296 **KIDS PAINT** - Simple, easy and functional art package for youngsters.
U289 **MINI MORPH V1.0** - Super fast morphing programme. The best you can get!
U296 **GRINDER** - Picture file conversion. Can transform most formating, including: GIF, TIFF, HAM-E , TIFF, ATARI, IFF.....

MUSIC TOOLS

U178 **COMPOSER** - Traditional style music composing with staves and notes. Very good. Includes examples.
U186 **MED 3.2** - Music sequencer. V.good.
U183 **PRO TRACKER** - Another professional music sequencer.
U200 **SHADOW SAMPLE MAKER** - Create samples without a sound samler hardware add on.
U260 **ST-88** - Sound samples for use with either U186 or U183.
U261 **ST-89** - More of the same. 85 samples.
U262 **ST-91** - As above. 52 samples.
U263 **ST-92** - As above. 75 more samples.
U264 **ST-93** - As above. only 29 samples this time.

LISTED IN THIS ADVERT IS JUST A SMALL PROPORTION OF THE SOFTWARE WE HAVE AVAILABLE. GET HOLD OF OUR DETAILED CATALOGUE DISKS FOR INFORMATION ON THESE AND MANY MORE SUBJECTS.

GAMES

G77 **TRACK RECORD** - Super fast overhead racing game. Loads of tracks, loads of action.
G75 **BULLRUN** - Wargame based on an historical civil war confrontation.
G68 **INSIDERS CLUB** - Stockmarket game where you can manage a multi-million pound corporation.
G66 **NO MANS LAND** - Good 2 player, one-on-one to the death duel with a variety of weaponary.
G64 **MECHFIGHT** - Role Playing Games where your character is a robot on a huge space craft.
G63 **GROUND ZERO GAMES #5** - Big value game compilation, with games like: Othello, Tiny Baseball, Tron 90, Frog.. 22 in all.
G61 **ZEUS** - Good puzzle game. Based on a commercial Ocean game, Puzznic.
G55 **MASTER OF TOWN** - Anti-social game of property destruction. Smash windows, damage vehicles, break street lamps. But fun. ·A500 ONLY·
G52 **BLOCKIT** - Another puzzle game which has been cloned from a commercial game.
G49 **POM POM GUNNER** - Shoot-em-up with digitised graphics. The scenario is Pearl Harbour.
G37 **SEALANCE** - strategy wargame where you command a nuclear submarine. Included animated sequences.
G35 **JAR** - Clone of an old arcade classic - Crystal Castles. A bit like Pacman with 3D platform mazes.
G26 **WELLTRIS** - Tetris game with a twist. Involves a 4 sided well.
G18 **THE GOLDEN FLEECE** - Incredible text adventure with masses of depth. Similar style to the awarding winning Infocom text adventures.
G88 **21 GAMES** - Another mega game compilation with 21 games on a single diskette. Different games to the ones on G63.
G106 **ANTEP RPG** - Role playing game with a very similar style and scenario to earlier Utlima games..
G121 **BIPLANES** - Take to the skies in this one or two player dog fighting game. ·A1200 USERS, DISABLE CPU CACHES·
G122 **DUEL** - Plain and simple 3-Dimensional split screen game for two players. Both in tanks, both with big guns. Guess the rest!!
G128 **TOTAL WAR** - Computerised version of the RISK strategy board game.
G129 **SUPERLEAGUE MANAGER** - Footy management game.
G138 **WORLD** - Science fiction text adventure on a strange planet.
G139 **CROAK** - Enhanced clone of Frogger, even a two player competition mode where you complete to get as many froggy's across at the same time.
G141 **AMERICAN FOOTBALL COACH** - Manage a NFL team and call all the plays.
G142 **BATTLEMENTS** - Based on Hunchback from C64.
G150 **LEGEND OF LOTHIAN** - Good role playing game.
G156 **MISSION X**- Shoot-em-up with awesome graphics.
G158 **BRAIN BALL** - Good looking but difficult skill/puzzle game. Worth a shot if you want a tough challenge.
G161 **ASHIDO** - Oriental puzzle game.
G162 **SYSTEM 4** - Game in the same genre as Q-Bert, but with new variations on the pyramid theme. Very professional.
G168 **OTHELLO** - Good board game. Also known as Reversi.
G169 **DONKEY KONG** - Platform game that first introduced Mario many years ago. Still brilliant.
G172 **BATTLE CARS 2** - Super fast 3D vector car battle game around a host of arena's.
G177 **CRAZY SUE II** - Popular platform game.
G180 **WAR** - Could be considered Space Chess.
G182 **TREASURE ISLAND** - Game for kids.
G183 **BOUNCE 'N' BLAST** - Highly praised platform game, almost of a commercial quality.
G193 **HELLZONE** - Space shoot-em-up, similar to R-Type. ·A1200 USERS, DISABLE CPU CACHES·
G196 **CAG** - Stands for CREATE ADVENTURE GAMES, make your own text adventures with this easy to use engine.
G200 **FIGHTING WARRIORS** - 1 or 2 player martial arts beat em up with large well animated sprites and special moves. V.Good.
G202 **A NIGHT AT THE TOP** - Atmospheric text adventure which dumps you in at the deep end - 40 stories up.
G205 **TOP OF THE LEAGUE** - Another soccer management game which gives you the oppotunity to run your own team and take them and you, to the top of the league.
G206/207 (2 DISKS) **OLEMPIAD** - Sports events with lemmings as the stars.
G210/211 (2 DISKS) **TALISMAN** - Big graphic adventure game. Excellent. ·REQUIRES 2 MEGABYTES·
G212 **FRUSTRATION** - Incredible text based adventure, unsurpassed in depth and detail.
G217 **UCHESS** - Chess game that uses the AGA chipset. ·REQUIRES 4 MEGABYTES, A1200 ONLY·
G221 **BOW & ARROW** - Archery game.
G224 **OBLIVION** - Super fast defender clone.
G226 **MORIA v5.4** - Big RPG with many dungeons to explore, with lots to do. Even has a town you can explore and visit the shops.
G229 **GIGER TETRIS** - AGA Tetris. ·1200 ONLY·
G232 **MONACO** - Clone of an old arcade game. Fast and furious.
G234 **WOT'S IT'S NAME** - Brilliant trivia board game.
G237 **GAMMON** - Good computer version of Backgammon.
G238 **TETREN** - Tetris with lots of added extras. Worth a look.
G241 **IMPERIAL WALKER** - Take control of an X-wing fighter and stop the imperial walkers from reaching the allied HQ.
G245 **ALL ROUNDER** - Cricket simulation like none other.
G246 **WIBBLE WORLD GIDDY** - Possibly the best platform, puzzle game ever produced for the PD market. A must.
G247 **FLEUCH** - C63 Thrust clone. Skillful game.
G249 **PSYCHO SANTA** - A game for Christmas.
G255 **AMOS CRICKET** - Shareware Cricket game. Lots of features
G256 **SHANGHAI '93** - Oriental tiles game.
G257 **DELUXE PACMAN V1.4** - The best Pacman clone around. Even includes power ups.
G262 **BLUE DIAMONDS 4** - Boulderdash clone. Good stuff.

USEFUL UTILITIES

U158 **NOERRORS** - Hides physically damaged tracks on [cut off] floppies and hard disks. In effect making useless disks, us[cut off]
U157 **ARQ 0.99** - Changes the boring old Workbench requ[cut off] windows into animated ones. Quite neat.
U146 **AMIGA SYSTEMS DISK** - Host of Amiga system diagnostic checkers, and performance testers.
U111 **GOLF SCORE** - Golf tally recorder.
U112 **WORD SQUARE SOLVER** - Finds those hidden w[cut off] in those word square puzzles.
U167 **BIORHYTHMS** - Plots your personal graph for any month of the year: Physical, Emotional, Intellectual.
U180 **BROWSER II** - Good file transfering programme, and much more.
U191 **TYPING TESTER** - Evaluates your typing speed.
U206 **RACE RATER** - Horse racing, outcome predictor. W[cut off] on statistical data you enter.
U215 **FREECOPY** - Removes various proctection schemes from a massive list of commercial games.
U216 **BON APPETIT** - Recipe database.
U267 **SPECTRUM EMULATOR V1.4** - Run old speccy games on your *AMIGA*.
U280 **LEMMINGS II HARD DRIVE INSTALLER** - Put Lemmings 2 on your Hard drive. ·REQUIRES 1.5 MEG, NOT A500·
U281 **D-COPY 3.1** - Powerful and professional disk duplica[cut off] software with a similar performance as X-Copy Pro.
U282 **TERMINUS 2.0** - Rewritten form Jrcomm. The best communications package for users with fast modems.
U283 **LOCKPICK V2** - Removes copy protection from roughly 450 commercial titles.
U290 **CHARACTER GENERATOR** - For Advanced Dungeons & Dragons players.
U291 **RELOKICK v1.4** - New version of this A500+, A600 and A1200 downgrader to Kickstart 1.3. Helps make many A5[cut off] only titles work on your machine.
U293 **PARBENCH** - Link up two Amigas, or Amiga to CD[cut off] for communicationg between them or file transfers.
U294 **POOLS TOOLS** - Comprehensic Pools predictor.
U297 **LISTER 2.1** - Disk magazine creator.

DEMOS

D148 **STATE OF THE ART** - By Space Balls. ·A1200 USERS, DISABLE CPU CACHES·
D161 **FAIRLIGHT 242** - 29 meg of graphics crammed on a single disk. Stunning routines.
D159 **LETHAL EXIT** - ·A1200 ONLY·
D157 **DESTINATION UNKNOWN** - The best AGA vector demo yet! ·A1200 ONLY·
M127/128 (2 DISKS) **JESUS ON E'S** - 27 minutes of Rave. ·REQUIRES 2 DISK DRIVES·
D160 **TECHNO TRACKS II** - Rave demo from the United States. ·1200 ONLY·
S93 **REVELATIONS** - Stunning slideshow.
S94 **NIGEL MANSELL AGA SLIDESHOW** - Nigel in his Formula One days. ·A1200 ONLY·
S91 **MANGA** - Japanese cartoon slideshow.
M139 **CLASSIX 2** - Classical music from Bach, Handel and Pachelbel.
A151 **THE LEMMING SHOW** - Starring Suicide man. No[cut off] the squeamish.·REQUIRES 1.5 MEG·
D156 **JETSET** - Funky.
D153 **RETINA** - Flashy demo. ·1200 ONLY·
D145 **PIECE OF MIND** - Star Trek spoof.
M134 **RHAPSODY IN BLUE** - Jazz.
M135/136 (2 DISKS) **NUTCRACKER SUITE** - Makes a welcome change.
M130-134 (4 DISKS) **A TO Z OF C64 TUNES** - Hundreds of classic C64 tunes packed onto 4 disks. Great value.
M125 **MUMBO JUMBO** - Very lively.

FINAL FRONTIER ISSUE # 5

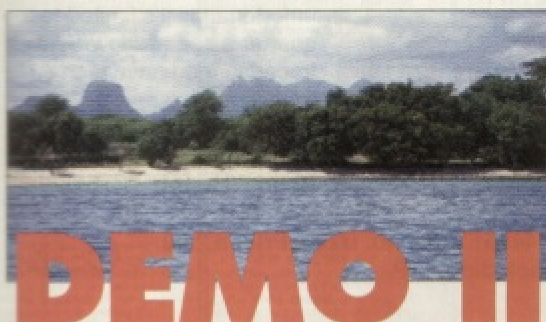
We also stock the Final Frontier disk magazine at only £6.00 inc P&P.Four action packed disks full of news, reviews.Everything on Star Trek and The Next Generation. Interviews with the stars and convention news. Loads of features. Plus exclusive artwork from Tobias Richter.

THIS IS NOT PUBLIC DOMAIN, THIS DISK MAGAZINE COMES WITH IT'S OWN PERSONALISED LABELS. AND AUTHORS GET PAID ROYALTIES FOR THEIR WORK.

PD SCENE



The man they call "that bloke over there", Tony Horgan is back again with another essential selection of late night entertainment, or PD software as it's sometimes known.



DEMO II

cd-rom compilation

Check this: 100 games, 6,000 sound samples, 2,000 Protracker music modules, stacks of demos and animations and hundreds of IFF images on a single CD. Not bad eh? It's the follow up to the Demo Collection, which also had loads of PD stuff, but didn't do it half as well as this.

It's been compiled to work with the CDTV, A570 and CD32. All of the programs are run straight from the disc (unlike those on the 17-bit disc which need to be unarchived to a floppy). Not all of them are guaranteed to work on your particular system, but utilities such as KillAGA are automatically used wherever possible to maximise compatibility. Even if you've only got 1Mb of RAM, you can still view even the biggest animations on the disc (albeit at a rather low frame rate), thanks to a player that spools the frames directly from the CD.

Despite the massive amount of software on the disc, this isn't shovelware, it's all good stuff. Owners of the first Demo Collection can get hold of this at a reduced rate. Contact Almathera for details.

Available from: Almathera, Challenge House, 618 Mitcham Road, Croydon, Surrey. CR9 3AU. Tel: 081 683 6418. Price: £19.99.

90%

HAUNTED MINE 1

game

Haunted Mine 1 has the makings of a decent game: smooth scrolling, fast gameplay, big levels and that sort of thing. The trouble is that it's let down by the actual design of the levels, which are far too pokey and fiddly. This wouldn't be so bad if you didn't have to clear each level on a single life, but as it is, it's just plain irritating.

Available from: Roberta Smith DTP, 190 Falloden Way, Hampstead Garden Suburb, London, NW11 6JE. Tel: 081 455 1626. Disk no. RGA015. Price: £1.40 including P+P.



50%

TEAPOT & ANGLEPOISE LAMP

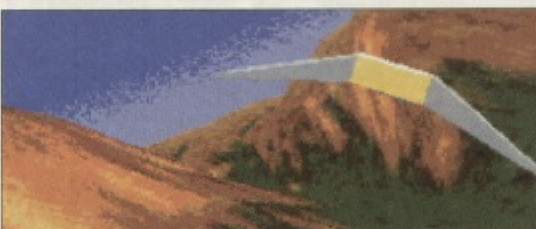
animation

Inspired by the famous 3D anglepoise lamp animation (the one with the two lamps playing with a ball), Teapot & Anglepoise Lamp is, in fact, only in 2 dimensions, but it's quite impressive all the same. It's a little sequence that sees the two items in question having a bit of a tiff. Even though it's only 2D, the animation is impressive.

Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Tel: 0983 529 594. Disk no. P125. Price: £2.50 including P+P.

78%





SNAKE RIDER

demo

Loads of effects are on show in this two-disk megademo from Nova. It kicks off with some vector animations of a spaceship leaving a hanger, which then takes a flight over a bit of a jerky fractal landscape, before leaving the planet altogether. From there it's on to a clever bouncing ball, texture-mapped with a fractal pattern, which is followed by some realtime fractal zooms. Next up, are some tedious 2D fractal plots, but it picks up again with a dot tunnel, some more vector effects, a texture-mapped cube and some full-screen bitmap rotation. There's a nice mellow tune backing it all up.

Available from: Visage Computers, 18 Station Road, Ilkeston, Derbyshire DE7 5LD. Tel: 0602 444501. Disk no. D207+D208. Price:£3.00 including P+P.

82%

WORLD OF MANGA

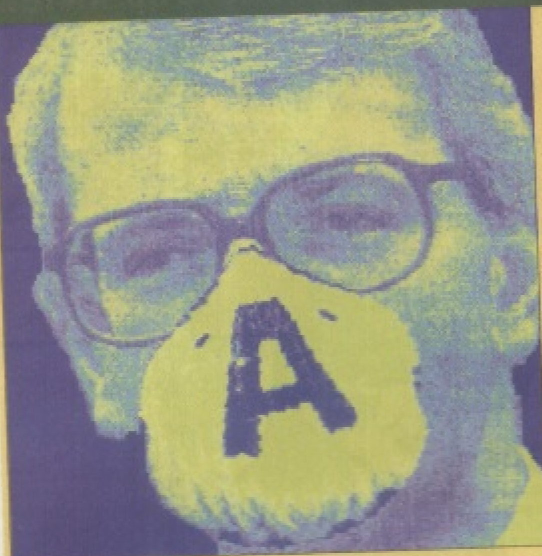
slideshow (AGA only)

What a feast this is for manga fans. Coming on no less than four disks, World of Manga is a storming sequence of Japanese comic art. Balloon-breasted young girls get quite a look in, but it's not all teenage sauce – samurai warriors, sumo wrestlers and space cadets are also on show. All the pictures are in high res interlace 256 colour mode and every one's a stunner. The first couple of disks use a pretty trendy fade effect too.

Available from: Visage Computers, 18 Station Road, Ilkeston, Derbyshire DE7 5LD. Tel: 0602 444501. Disk nos. A121-A124. Price: £5.00 including P+P.

90%







JESUS ON CHEESE



demo (1.3 only)

It started with a bit of Red Leicester at the weekends now and then...before I knew it I was onto a pound of Wensledale a day, and as many of those little cheese triangles as I could lay my hands on. Naturally I was pretty excited when this one turned up. It's a mickey take of the Jesus on E's hardcore demo.

Sonics are taken care of with a simple bouncy acid techno track, which consists of a little loop from a TB 303 (Rob Acid?) and a simple programmed backing beat. Visuals include John Major wearing an Altern 8 mask, Jesus on a crucifix of Emental cheese, colour-cycled fractals, oscilloscopes and assorted multi-coloured strobes. All good stomping stuff, and with a sense of humour too!

Available from: Visage Computers, 18 Station Road, Ilkeston, Derbyshire DE7 5LD. Tel: 0602 444501. Disk no. D206. Price:£2.00 including P+P.

80%

GROOVY

demo

Lemon's latest is a classy little number. It gets going with a spinny chequerboard zoom effect, followed by a couple of glenz dotballs, and some very nice plasma, accompanied by a funky guitar soundtrack. The plasma later mutates into an impressive kind of 3D smoke trail effect that would be excellent if it filled the screen, but unfortunately it's limited to a quarter-sized window. A ray-traced looped animation rounds it off.

Available from: Visage Computers, 18 Station Road, Ilkeston, Derbyshire DE7 5LD. Tel: 0602 444501. Disk no. D209. Price:£2.00 including P+P.

85%

DAS PUNICA SPIEL

game

Weird city! This is one strange game. You control a pink-faced chap who struts around in a flat cap and braces. All the text and instructions are in German, so I won't even make an attempt to guess what the plot's all about, but what I can tell you is that it's some kind of arcade adventure set in Egypt. It's a kind of platform game, but each level seems to have been written as a completely different section, so one minute you're on a fairly standard platform screen, and the next you're in a maze where gravity doesn't exist. Most peculiar, but fun if you like something a bit different now and then.

Available from: Cynostic PD, Office 01, New Enterprise Centre, Little Heath Industrial Estate, Old Church Road, Coventry, CV6 7NB. Tel: 0203 613817. Disk no. G0208. Price: £2.00 including P+P .

50%





SOMETHING ABOUT SILENTS...

demo

Something About Silents Makes Me Sick is a brief trip into swirly-scrolltext land, passing through some scenic-distorted vectors on the way. It's extremely short on effects, but at least the grunge-hip hop soundtrack is different from the usual pap, with some good guitar samples to get your ears around.

Available from: Cynostic PD, Office 01, New Enterprise Centre, Little Heath Industrial Estate, Old Church Road, Coventry, CV6 7NB. Tel: 0203 613817. Disk no. D0195. Price: £2.00 including P+P.

60%

PERIL



animation

Animations that fit into 1Mb aren't often much cop, but this one uses some interesting techniques. It's a brief cartoon melodrama with the old "Villain ties damsel to the train tracks" storyline. The odd 3D zoom makes it a bit more attention-grabbing than usual, and the simple comic art is effective.

Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Tel: 0983 529 594. Disk no. P125. Price: £2.50 including P+P.

78%



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❑ ^ ^ **V1070 (AGA) UTLs 2** 256 colour icon editor, Plamsa256, QuickGrab v1.1
❑ ^ ^ **V1071 (AGA) MSM v1.8** Martins system monitor for programmers
❑ ^ ^ **V1072 (AGA) WINBLENDER v39.28** Create excellent/stunning AGA fractals. Also contains 68030/040/FPU versions.
❑ ^ + **V1073 FT-X ACCOUNTS v2.01** Was written as there are not ready any other good account packages.
❑ ^ ^ **V1074 (AGA) UTLs 3** Collection of AGA Based utilities. Includes Kill AGA Which allows you to run old badly written programs including demos & some games.
❑ ^ * **V1077 GENEALOGIST v3.04** Is a specialized database for keeping track of genealogical information. Full featured & a wide selection of features to use.
❑ ^ + **V1078 PC TASK v2.03** Software IBM-PC emulator. It allows you to run the majority of PC software with no additional hardware. Now supports VGA, EGA, CGA and MDA. Full version £49.99 see below
❑ ^ + **V1079 KEYBOARD TRAINER v1.1** Best Public Domain Typing Tutor An excellent New program / Amiga
❑ ^ + **V1081 REPAIR-IT 3** Contains a selection of Disk, Hard Drive repairing and file saving utilities for the Amiga.
❑ ^ + **V1083 CROSS v5.1** is a program that creates crossword puzzles for you
❑ ^ + **V1084 SPECTRUM EMULATOR v1.7 (2)** This is the best & latest version of the most popular emulator for the Amiga. There is an 020/030 versions now on the disk which enhance the games on disk.
❑ ^ + **V1087 STOCK ANALYST** Technical analysis and securities tracking program which calculate when to buy & sell shares.
❑ ^ ^ **V1088 WB 2.0+ UTLS** Contains ChkFrag, DFCS, FastDos, Formatter, No-Click, UnDelete, KeyMac, MegaWB, MR, 1 Plane, OpenL, ResumeMaker & StarBlank.
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❑ ^ + **V1091 ASTRONOMY v2.0** A menu driven astronomy program that cal-culatoes information about the Sun, Moon, Planets and Constellations. Help Disk.
❑ ^+ **V1092 HEROQUEST AID** Will aid solo AD&D players who do not have a Dungeon master at the present time. It takes over the DMs role. Good or what.
❑ ^ + **V1093 PARNET SET-UP (2)** A two way network file system between two parallel ports, establish via two amigas.
❑ ^ * **V1095 DEGRADERS** If you have trouble running software on an A1200 or A4000/030/040 give this disk a try it will emulate the basic 1.3 rom better that any other software on the Amiga at present.
❑ ^ + **V1096 MING SHU CHINESE ASTROLOGY** Will create a horoscape in seconds not hours. the complete aid.
❑ ^ + **V1097 TITANIC CHEATS v1.40** Contains 950k of raw data which is just a whisker under 600 games. Well presented
❑ ^ + **V1101 RJ UTLs** This disk contains helpful image processing and painting programs. Like Perfect Paint v1.34, Image Workshop v1.3, an IFF Manipulator.
❑ ! * **V1102 DT UTLs** Contains Border for WB v2.04+ machines, MakeKickFile, SKick v3.34, is a replacement for kick-it, ZKick and UKick lockers, the will soffkick any other version of kickstart into ram.

❑ ^ + **V1103 TEK-ATAK MODULES** An excellent helping of wonderful music for your own productions or to listen to.
❑ ^ * **V1104 COLOURED ICONS** Transfer your disks into colourful well presented works of art with this database.
❑ ^ + **V1105 VIEW TOOLS** Contains Convert, ViewTree, a FamilTree easy to use database progra. ViewPhone, an British telephone storage database. ViewDisk, is a small disk catalogue utility.
❑ ^ + **V1106 MAJOR LEAGUE** Allows you to keep track of your favorite teams and there results. Dataindex v2.4
❑ ^ + **V1109 STAR VIEW** Is designed to show graphically the positions of the stars and planets from any point on Earth.
❑ ^ + **V1110 FORCASTER v2.01b** Is a Horse Racing prediction program which uses statistical analysis of Major factors.
❑ ^ + **V1112 CHEQUE BOOK v2.5** Record your bank and other transactions.
❑ ^ + **V1114 PRINT LABELs** DocDump2.1, Envelope Print v1.2, Inlay Maker v1.4, MC master v1.1, Banner Press, Label Print v3.5
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❑ ^ + **V1117 x-BEAT v1.2** A good program for drum sequencing 16 bass.
❑ ^ * **V1121 SHAYERA'S TOOLS** Contains IFF2RAW, MatchRun, NoClick, PlayMelon, SetStar, TrackPlayer v1.92
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❑ ^ + **V1124 FIRST ALERT VIRUS** BootX, EVN v2.22, LVD v1.75, MVK v2.2, No Saddam, SnapShot, VC, Virus X, Virus Z.
❑ ^ + **V1125 LEMMINGS 2 INSTALL** This disk will install Lemmings 2 to your hard drive. 1Mb Chip RAM + 512k RAM
❑ ^ + **V1129 RED DRAWF TRIVIA** The ultimate Quiz and answers game.
❑ ^ + **V1130 COMMUNICATE v1.2** A helping tool for learning one of the eight formats of cummunications or languages.
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❑ ^ + **V1133 NUMPAD v37.3** Emulates a numeric keypad on some Amiga Keys.
❑ ^ * **V1134 TOOLMANAGER v2.1 (2)** Includes the ability to add menus to your Tools menu, add WB icons or Windows.
❑ ^ * **V1136 DISK UTLs 2** Copy_C A tool for making backup copies, formatting ect. DiskMate A multi drivedisk copier. Disk Salv 2 Disk repair, salvage & undelete utl. HDClick, HD menu & workbench tool.
❑ ^ ^ **V1137 (AGA) UTLs 4** Test, BBlank, CheckAGA, CycletoMenu, Doublex, Force VGA, GIF Datatype, PKLudge, PPShow, Rend24, ViewTek & Verlauf
❑ ^ ^ **V1138 (AGA) UTLs 5** Degrader, Pov-Ray, AmigaToDouble, CardMemLast, Palette, Promotor, RomTagMem.
❑ ^ ^ **V1139 (AGA) UTLs 6** A4091Patch, Alert Timer, Bestid, Clouds, Ham8 JPEG, NewPOP, NTSC4NTSC, PatchPainter, Plasma PCX & Screen Mode changer.
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❑ ^ + **V1147 EASYBENCH** Contains a wide selection of utilities which covers almost all the best utilities on the Amiga **(2)**
❑ ^ + **V1152 GOLDED V.94 (2)** A GUI Based editor with lots of functions/options (about 250), DICE compiler front end, OS3 look & functions, folding paragraphs, fully customizable menus, Hotkeys, Autoback-up, Insert columns, Clipboard, And more.
❑ ^ + **V1153 AMIGABASE v1.31** A programmable database, features inclu-de 2 display methods, filter datatypes, search, print, string, memo text, date, time, Data only limited by memory size.
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❑ ^ + **V1178 KICKSTART 3 EMULATOR** This disk is a multi kickstart selection utility disk, You can select Kickstart 1.3 (34.005) Kickstart machine (as it is) Kickstart 3.0 (39.106) No AGA picture support but you do have a superior Workbench ect.
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❑ ^ + **V1190 TECHNO MODULES 1-5** Yet another helping of RaveTechno music from the European map. Requires a tracker. **(5)**
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❑ ^ + **V1208 OCTAROCK** A selection of rock orientated modules and samples (OctaMED)
❑ ^ + **V1213 PROGRAMMING LANGUAGE** This contains the Programming languages like, Ace, AmigaE, AmigaEdo, SBProlog, BCPL4AMI, EGLI, Pascal and others **(3)**

GAME DISKS

❑ ! - **1073 TETRIS ORIGINAL** This is the closest game to the original tetris
❑ ^ + **1420 DTRIS** If you want all or 2 player Tetris this has to be 1 of them.
❑ ^ + **1749 SCRAMBLE** Original that old classic game from the arcades
❑ ^ + **1977 POM POM GUNNER** Shoot down world war I air planes in this Operation Wolf style type game.
❑ ! - **2018 JETMAN** Spectrum classic converted to the amiga. with all the original sounds.
❑ ^ + **2022 SEA LANCE** The first Silent Service type sub war game on PD
❑ ^ + **2054 ATIC ATAC** A rendition of the game from the original Spectrum.
❑ ^ + **2164 DUNGEON ON NADROJ** This is the best D&D adventure type game.
❑ ^ + **2220 STRATEGIC GAMES** Eternal Rome, Lords of Hosts, In Moonshine
❑ ^ + **2221 MIND GAMES 21** of the best games to challenge your mind
❑ ^ + **2272 BLACK JACK LAB** Play all the popular versions of Pontoon
❑ ^ + **2278 CARD SHARP** Professionally presented selection of solitaire games.
❑ ^ + **2280 DIPLOMACY** Classic strategy game loosely based on World War 1. 2Mb
❑ ^ + **2411 TOTAL WAR** Strategy world conquest type game. 1 or more players
❑ ^ + **2432 GOLDEN OLDIES** Galaga, Galaxion, Space invaders, Asteriods, Batty & Missle Command
❑ ^ +> **2447 COINDROP** Fruit Machine simulator with various gamble modes.
❑ ! - **2448 CRAZY SUE** Another first rate cute school girl platform game.
❑ ^ +> **2480 FRUIT MACHINE 2** As near as poss to the Arcade machines
❑ ^ + **2485 IRON CLADS** Strategic War Game which is heavy on your mind **(2)**
❑ ^ + **2491 LEGEND OF LOTHIAN v1.02** Excellent adv game in the vein of Ultima.
❑ ^ + **2498 AMOS CRICKET** Excellent arcade cricket simulator with nice graphic.
❑ ^ + **2614 TETREN** Is a 1 or 2 player Tetris. The 2 player game is Head 2 Head.
❑ ^ + **2617 GOLDEN OLDIES 2**: Croak, is a 1 or 2 player Frogger. BiPlanes is 1 of the most additive games we've played here. Trail-Blazer, as the C64 Classic. Scamble.
❑ ^ + **2620 DR MARIO** You must move coloured pills down the screen. 3 in a row
❑ ^ + **2621 ETERNAL ROME** Start the Roman Empire from 32BC. Build fleets, armies & attack.
❑ ^ + **2622 DONKEY KONG** Platform game in which you must rescue the girl.
❑ ^ + **2676 MORIA v5.4** Loads of new features, better graphics, larger, graphics, dungeons, screen updates, overview of dungon's map, more monsters ect..
❑ ^ + **2710 CLASH OF THE EMPIRES (2) v2.1** Strategical War game By T.A.Sear
❑ ^ + **2724 NEIGHBOURS** Is the best graphical adventure game to date **(2)**
❑ ! + **2738 AIR TRAFFIC CONTROL** Try to guide upto 100 planes into the AirPort
❑ ^ + **2775 ROULETE ROYAL** Why not do some gamble with chips at the casio
❑ ! + **2802 CARD-O-RAMA** Sea heven, Crib Klondike, Black-jack, Spades, Street.
❑ ^ + **2825 ALL ROUNDER** A Cricket simulation with great graphics & play
❑ ^ + **2842 CRAZY SUE II** Sequal to the all time best selling PD platform game.
❑ ^ + **2854 SPACE INVAIDERS II** A revised old classic Space Invaiders game.
❑ ^ + **2863 FIGHTING WARRIORS** A karate combat fighting contest game.
❑ ^ + **2932 NUMERIX** Enjoy puzzles / Tetris then this is a must. You have a scrabble board & you must place tetris blocks to get points.
❑ ^ + **2941 EXTREME VIOLENCE** Scrolls around much bigger than Smash TV
❑ ^ + **2987 BOMB JACKY** A conversion as the original Bomb Jack, It's as the best
❑ ^ * **2988 BALDERS GROVE** Its here Boulder dash with a selection of levels that work fully on Workbench 2. or higher
❑ ^ ^ **3023 UCHESS (AGA)** Do you love chess then try this. 4Mb & WB 3.0
❑ ^ + **3037 SSW** A game for 2 based on Space Wars but with many extra features.
❑ ^ + **3038 TANK HUNTER** A 2 player Tank Attack game with various levels.
❑ ^ + **3039 ASTEROIDS II v0.85** The best version of Asteroids I have ever seen, If you like Asteroids then this is for you.
❑ ^ ^ **3040 TETRIS (AGA)** If you like tetris, you need this disk. AGA graphics.
❑ ^ + **3075 18 HOLE GOLF (2)** The first excellent golf game Theres fully selectable speed & power functions combined with surpub graphics top a great game.
❑ ^ + **3162 SON OF BLAGGER** This is a classic C64 platform conversion Can you remember how active it is to play
❑ ^ + **3214 UNIV CONQ** A strategy game where 2 human players battle for control of the universe. Status information is continually updated to allow the player to concentrate on strategy. digitized pictures
❑ ^ + **3234 SYSTEM DEFENDER** If Defender is the game and this is the game for you, In true defender style it retains all features.
❑^ + **3235 ALIEN BASH** The game is set inside a prison for the galaxys mentally unstable, you have been imprisoned there along with a bunch of your mates. Rescue your friends by shooting
❑ ^+ **3237 SKIDMARKS** Racing game in which you skid around a nice track to win
❑ ^ + **3252 BONDMINE 12** A well produced game in the vain of the classic Boulder Dash games.
❑ ^ + **3253 OPERATION METEOR** Set in 3d graphics in which you must travel around in a stunning adventure.
❑ ^ - **3257 SUITCASE (2)** The best adventure on the amiga to date. Excellent
❑ ^ + **3265 WIBBLE WORLD GIGGY** Wibble World of Giggia Mainia hits town Yes you can enjoy the frills of controlling an egg shaped character for free. Solve puzzles avoid the monsters
❑ ^ + **3269 BRAINBOW** Is an original board game, which will have you taxing your brains for hours. Rather like a version of the pile-up Scrabble
❑ ^ + **3280 STRIKEBALL** Is a version of baseball with a few rule changes.
❑ ^ + **3283 NECESSARY ROUGHNESS (2)** Puts you in charge of a team of your choise and lets you play a computer team, again of your choise. As headcoach you will have to call the playsthat you think will be most effective to the game. You will then be ableto see the action, followed by a breif summary of what you have just seen.
❑ ^ + **3285 THE ENTITY v1.1** You play the role or i should say control the stix and you're beinginvaided by the Entity.
❑ ^ + **3286 AIR HOCKEY** Is a bat and ball game based on air hockey from the amusement aracdes, 2 players.
❑ ^ * **3287 ROAD TO HELL (2Mb)** Is an overhead view driving game like HotRod and super sprint. It requires skill and coordination for success. The aim of the aim of the game is towin the gold in the Championship by making more money that your opponent. Theres a helping extra which can be bought from the shop like enhancedtypes, Better Engines, Rockets, Smoke screens act.
❑ ^ + **3310 STARBASE 13 (2)** Is a graphical adventure, simular in style to monkey island or Operation Stealth. The controls and what they do are fairly obvious.
❑ ^ + **3370 DIGITAL TETRIS** Is a One or two player Tetris game with neat graphics
❑ ^ + **3371 SUPER PRIX** This is the closest variant game of Super Sprint on the Amiga
❑ ^ + **3383 POPEYE** Is one of my old favs from the C64 computer. Very playable.
❑ ^ + **3384 BLOAD RUNNER** Remember that old classic game well here it is.
❑ ^ + **3397 SPACE INVASION** Another convertsion of Space Invaiders.
❑ ^ + **3401 JETTY QUEST** This game is a cross between QBert and Block It with makes it an excellently addictive puzzle game.
❑ ^ + **3411 KINGDOMS AT WAR** This is a 1 to 4 player Risk type game with neat and calourful graphics and presentation.
❑ ^ + **3412 THE LAST REFUGE** Is a Space invaiders variant set in the middle ages.
❑ ^ + **3413 DARKSTAFF** Is another classic game this one from the spectrum world.
❑ ^ + **3414 CONQUEST & DOMINATION** An excellent strategy war game in which you can battle with troops, Tanks, Guns, Planes, Bombers, Battle ships. Replace ammo, trains, tankers, Build buildings ect.
❑ ^ + **3428 CLASSIC TERIS GAMES** For all you out there with a fetish for Tetris games heres a little selection to keep you happy.
❑ ^ + **3434 MR MEN OLYMPICS** Heres a fast action joystick waggling game for all true Olympians or just crazzed Mr Men. **(2)**
❑ ^ ^ **3436 (AGA) MOTOROLA INVAIDERS** Its just another excellent AGA very large graphics space invaider type game. **(2)**
❑ ^ + **3465 ROBOULDIX** Is a action puzzle game with 32 colour graphics, over 500 different objects, and is a variant on the most excellent arcade classic BoulderDash.

STAR TREK SELECTION

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- ☐ U204+12 **MATHSADV**... simple maths problems to solve. **REFLEXTEST**... tests.
- ☐ U205+12 **Japanese**...word-a-day & vocab.
- ☐ U206+12 **Child quiz**...simple quiz game with colourful graphical pictures from ages 5 and upwards. Excellent game.
- ☐ U207+12 **Gelignite fonts (2)**...if you want some colourful DPaint fonts.
- ☐ U208+12 **Football League Editor**...Update your teams' league position as the results come in.
- ☐ U209+12 **IBeM Emulatro v1.5**...CGA IBM pc emulator written to run on any Amiga shareware version.
- ☐ U210+12 **Account master**...Excellent Amos written program.
- ☐ U211+12 **Directory Utils**...Highly recommended programs, designed to make CLI & Shell tasks virtually obsolete.
- ☐ U212+12 **Grinder**...complete graphic conversion package that supports GIF, IPEG, AtariST, (Neochrome, Degas), PCX, Targa, TIFF, Ham-E, and TIFF format pics.
- ☐ U213+12 **Inscript v1.1**...produce video titles, inc. fully editable text entries.
- ☐ U214+12 **Repair-It 2**...BewZap V3.3, a multi sector file editing system FIXDisk v1.2, recover as much as possible from a defective disk. DiskSalve v1.42, creates a new file structure on a different device, with as much data salvaged from the original disk.
- ☐ U215+12 **Mandel Explorer (2)**...This is the best collection of Fractal Generating software on the Amiga.
- ☐ U216+12 **3d Helper**...helps you start out with 3d graphics.
- ☐ U217+12 **Icon tool kit**...every tool possible.
- ☐ U218+12 **Space**...helps you study space, id the stars and celestial objects.
- ☐ U219+12 **Troni CAD v1.0**...the best CAD program available for the Amiga.
- ☐ U221+12 **System Test v4.1**...checks and reports on the health of you computer
- ☐ U222+12 **FIM v2.2**...IntroMaker. IFF imports.
- ☐ U223+12 **Compugraphic fonts**...will work with DPaint V4.1, ProPage 3, PageStream, Page Setter, WorkBench v2.04+, About 30 fonts(3)
- ☐ U224+12 **Letters & boilerplate**...Standard format letters to cut and paste into your word processor.
- ☐ U225+12 **Lyapunovia V1.5**...colourful program making pictures from a mathematical formula.
- ☐ U226+12 **Protection**...Utilities collection to protect your data.
- ☐ U227+12 **Club League**...to help you keep track of stats and facts.
- ☐ U228+12 **NCOMM V3.0**...communications program.
- ☐ U229+12 **VMORPH v2.21**...create smooth morphs between two images.
- ☐ U230+12 **Workbench 3**...utility.
- ☐ U231+12 **Octamed v2.0**...music edditor.
- ☐ U232+12 **WB 3 Screens**...enhance your Workbench disk backgrounds with these colour pics.
- ☐ U233+12 **Little Traveller v1.1**...Zoom in on any country on a world map to obtain useful information.
- ☐ U234+12 **Printing disk**...contains Banner, Graph Paper v1.2 and Disk Print v3.59.
- ☐ U235+12 **UDraw v1.0**...provides a mechanism for the rapid drawing of bitmap diagrams.
- ☐ U236+12 **XI Rave samples**...Garrett Watts' 808 State samples (IFF).
- ☐ U237+12 **EasyCalc v1.0**...Spread sheet.
- ☐ U238+12 **ParBench**...the software to hook up two Amigas or CDTVs
- ☐ U239+12 **Developer**...the official Commodore's developers kit.
- ☐ U240+12 **EDPlayer**...it looks, acts and sounds like a CD player!
- ☐ U241+12 **3d graphics**...several 3d modelling and ray tracking progs.
- ☐ U242+12 **Graphics**...stunning graphic images creator... roses, rayshades etc.
- ☐ U243+12 **AGA UTILS 2**...2.56 colour icon editor, PLamsa256 and QuickGrab v1.1
- ☐ U244+12 **Winblender V39.28**...stunning AGA fractals, 68030/040/FPU versions inc.
- ☐ U245+12 **Geneaologist V3.04**... specialised database for keeping track of your family tree.
- ☐ U246+12 **Stock analyst**...technical analysis -securities program helping you to work out best share buys.
- ☐ U247+12 **Astronomy v2.0**...calculates info about the sun.moon, planets and constellations.
- ☐ U248+12 **Ming Shu Chinese Astrology**...creates a horoscope in seconds.
- ☐ U249+12 **Titanic Cheats v1.4**...950k of raw data – 600 games.
- ☐ U250+12 **TEK ATAK modules**...music.
- ☐ U251+12 **Colourful Icons**
- ☐ U252+12 **View Tools**...contains convert, View Tree, family tree – easy to use database.
- ☐ U253+12 **Major League**...keep up to date with your club's fortunes.
- ☐ U254+12 **Star View**...graphic illustration of the stars.
- ☐ U255+12 **Forcaster**...racing predictor.
- ☐ U256+12 **Anti-flicker**...stops flicker on hi res screens.
- ☐ U257+12 **Football League Editor**
- ☐ U258+12 **DrawMAp v4.1**...world map.1&2mb
- ☐ U259+12 **Race Rater V1.6**...horse racing predictor.
- ☐ U260+12 **DiskPrint v3.51**...prints labels.
- ☐ U261+12 **Software Lister v1,6**...keeps track of your software collection.
- ☐ U262+12 **Online v1.4**...shortcuts and cheats for games.
- ☐ U263+12 **Screen Blanker**...one of the best! includes the Twilight Zone.
- ☐ U264+12 **Trax**...brilliant disk for people trying to get started on the music side.
- ☐ U265+12 **HD Click v2.53**...an easy to use HD menu and Workbench tour. Also enclosed is a prog to create Requestors of all kinds from a shell script.
- ☐ U266+12 **Pools Tools 2**...Debugged version of the pools forecaster.
- ☐ U267+12 **Football Forecast**...demo version.
- ☐ U268+12 **Text Engine v4.0**...debugged version of the best pd wordprocessor.
- ☐ U269+12 **AGA utils**...Great collection for all A1200 owners.
- ☐ U270+12 **Golf Scorerev 1.84**...new golf scoring program – analyse your game.
- ☐ U271+12 **SuperViewer+12**...contains detailed instructions on how to create your own slideshow.
- ☐ U272+12 **F574**...HD cache speed up prog.
- ☐ U273+12 **Solo Samples**...five disks with drums, synths, break beats and modules.
- ☐ U274+12 **Digital disk 1**...computer mag.
- ☐ U275+12 **Utility mania**
- ☐ U276+12 **Astro 22 v3.0**...now comes with improved graphics, greater accuracy and hard drive support.

ALL NEW GAMES

- ☐ G001+12 **Necessary roughness**...American football game written on Amos.
- ☐ G002+12 **Exit-13**...Ian Quigley puzzle game with 68k source code. Also enables user the chance to see how the game was written.
- ☐ G003+12 **Wibble**...best platform game.
- ☐ G004+12 **Smurfhunt**...amusing shoot em up.
- ☐ G005+12 **Fighting warriors**...arcade style fighting game – excellent.
- ☐ G006+12 **Muggle v10**...text adventure.
- ☐ G006+12 **Neighbours (2 disks, 1mb, 2drives)** Stop Paul Robinson in this superb Ramsay St caper.
- ☐ G008+12 **A1200 Tetris**...classic.
- ☐ G009+12 **Dr Mario**...great game.
- ☐ G010+12 **18th Hole**...(2 disks, 2 drives) Very addictive golf game.

WE NOW STOCK ASSASSINS GAMES 1-120

75p

UTILITY WORKSHOPS

These disks contain a number of programs on the same theme, giving you outstanding value for money. The disks are compatible with all Amigas, with easy to follow, printable instructions.

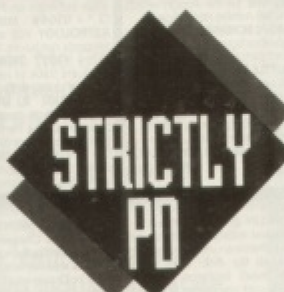
- ☐ FX1+12 THE PRINT WORKSHOP
- ☐ FX2+12 THE HARD DRIVE WORKSHOP
- ☐ FX3+12 THE GRAPHIC WORKSHOP
- ☐ FX4+12 THE VIDEO TITLERS WORKSHOP
- ☐ FX5+12 THE PACKERS WORKSHOP
- ☐ FX6+12 THE DISK REPAIR WORKSHOP
- ☐ FX7+12 THE HATCHERS WORKSHOP
- ☐ FX8+12 THE VIRUS KILLERS WORKSHOP

ALL NEW DEMOS

- ☐ D01+12 **World War II**...fact book about WWII.
- ☐ D02+12 **Digital version of the Warriors** ...(5 disks, 1mb) This absolute monster of a music demo contains 9 tracks spanning 28 minutes with 2.6megs of rave music and 200 kilobytes of graphics. Get it now!
- ☐ D03+12 **Andromeda**...wicked demo.
- ☐ D04+12 **A1200 6 Demo Compilation**
- ☐ D05+12 **Jesus on E's...(2 disks)** The best rave music demo to date.
- ☐ D06+12 **Mindwarp**...Excellent AGA demo – show off your A1200.
- ☐ D07+12 **Swimsuit slideshow (2 disks)** ...stonking schicks in bikinis or parts of bikinis!
- ☐ D08+12 **HO15 AGA Demo**...another great demo for showing off your A1200.
- ☐ D09+12 **Desert dreams (2 disks)**...Kefrens have put together another demo classic – highly recommended.
- ☐ D10+12 **256 women**...This photo realistic 256 colour picture set contains beautiful women in A256 format and will load onto any 24 bit/AEA application such as DPaint etc and can be used on workbench backdrops.(5 disks)

F O N T S

Strictly PD presents an amazing new font collection. There are 26 disks within the set in two forms: Adobe Type 1 or scalable. Adobe fonts work has been tested on final copy IIb, PageStream v2.1+, Professional Page v3.0, Pagesetter v3.0, Workbench v2.0 and v3.0. Both types will work with loads of other Amiga packages that can take the font formats. Please state Adobe or scalable when ordering fonts.



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All disks are compatible with all Amigas unless other wise stated

ALL NEW BARGAIN MULTIPACKS

STRICTLY PD BRING YOU A SELECTION OF XMAS BARGAIN PACKS. THE FOLLOWING PACKS ARE ONLY £10 (PLUS P+P) FOR 10 DISKS.

☐ GLAMOUR PACK 1

Ten disks stuffed full of foxy chicks (A500 only)

☐ GLAMOUR PACK 2

More of the same... (A500, A500+ and A600 only)

☐ GLAMOUR PACK 3
☐ GLAMOUR PACK 4
☐ GLAMOUR PACK 5
☐ GLAMOUR PACK 6

Stunning scantily clad girls... This photo realistic 256 picture set contains beautiful women in A256 format and will load onto any 24-bit/AEA application, such as DPaint etc and can be used on Workbench backdrops (A1200 only)

☐ VIDEO PACK

This four disk set contains loads of great video titling utilities, together with a 50 page manual to help you get the most out of each programme

☐ BUSINESS PACK

This 10 disk pack contains loads of useful progs for your business

☐ GAMES PACK

Ten disks full of great games

☐ A1200 PACK

Great starter pack for the A1200.

Blank disks...
12 in own box... £7.50, 50... £22.50
100... £40.00, Mouse mats... £2.99 each

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- Catalogue disk available only £1. Reviews of well over 1000 disks + loads more

- The complete Strictly P.D. library is now available in Australia. To order a catalogue please send a cheque or postal order for $2.00 to Hargware, 29 Woralu St, Woramanga, ACT 2611, Australia.

PD UTILITIES

Public domain is ripped wide open by our resident bargain-hunter Tony Horgan. Watch with awe as he uncovers some of the hottest utilities around.

VISION AND SOUND 2000

sound & graphics utils

This is another of those ever-so-handy utility compilations. All of the mini-applications and utilities are geared towards sound and graphics, and are as follows...

Animbuild creates animations from a number of IFF screens. Animinfo gives you statistics on anim files, such as the number of frames, speed etc. Animsplit chops a single anim file into two smaller ones, which is handy if your original file won't fit on a single disk. BMP allows you to listen to small sound files. CombineAnim tags two animations together. Convertor imports and exports picture files in different formats. Fenster rips pictures from memory. Hunter III rips music modules. Multiplayer allows you to play uncrunched modules, while Noiseplayer lets you playback crunched modules from CLI. IEV3Demo is an icon editor. Joinsound links up two separate samples into one. Recolour changes Workbench 1.3 colours to their WB2 equivalents.

Picbase catalogues your picture files. PPAnim plays back Powerpacked anims, PPMore displays Powerpacked text files, and PPShow displays Powerpacked images. S-Pic converts pictures into executable programs, and S-Anim does the same for animations. Sound Effect plays small sounds, Textra is an ASCII text editor, and finally View is an IFF picture and anim file viewer.

There are some very useful tools here, and if you regularly deal with sound and graphics, you can bet you'll need half of these in future.

Available from: GVB PD, 43 Badger Close, Maidenhead, Berkshire, SL6 2TE. Tel: 0831 649386 (anytime) 0628 36020 (after 6pm). Disk nos. U276 and U277. Price: £1 per disk including P+P. (2 disk set). Make cheques payable to GV Broad.

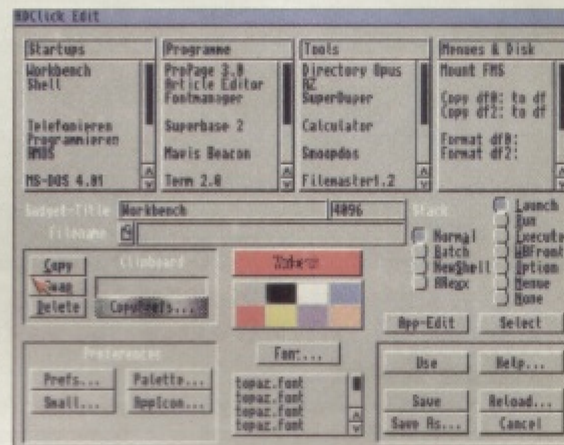
87%

HDCLICK

workbench interface

If you find Workbench a bit tricky to use, chances are you could do with something like HDClick on your system. It's a simple system for running programs from a hard drive. Instead of fishing around in windows and drawers, you just click on your chosen program from the on-screen list.

This is a good idea, but if you're planning to use it for your own benefit, you could run into a few problems, as you'll need to know your way around the hard drive in order to set it up to match your specific requirements. Then again, if you do have what little knowledge is needed to configure the system, it's a neat way to make a machine more accessible to others.

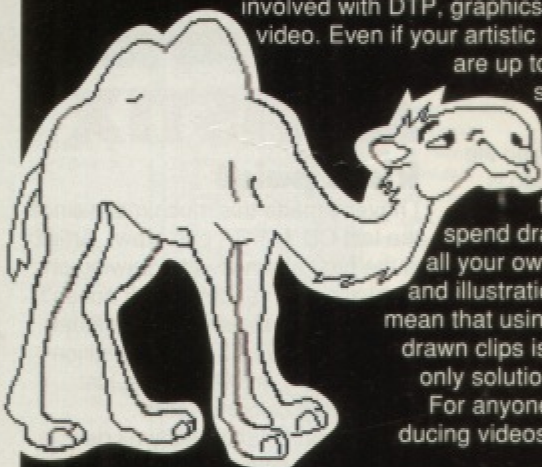


Available from: Roberta Smith DTP, 190 Falloden Way, Hampstead Garden Suburb, London NW11 6JE. Disk no. G100. Price: £1.40 (including P+P). Workbench 2.0 and above only.

70%

WEDDINGS KIDS+ANIMALS

clipart



Quality clip art can be an enormous help to anyone involved with DTP, graphics or video. Even if your artistic skills are up to scratch, sometimes lack of time to spend drawing all your own logos and illustrations can mean that using pre-drawn clips is the only solution.

For anyone producing videos or wedding invitations, there's a massive selection of large high resolution images spread over two disks. All the clips are mono IFF files. Then there's the Kids and Animals disk, which contains a collection of cartoony bears, kittens and other cuddly animals.

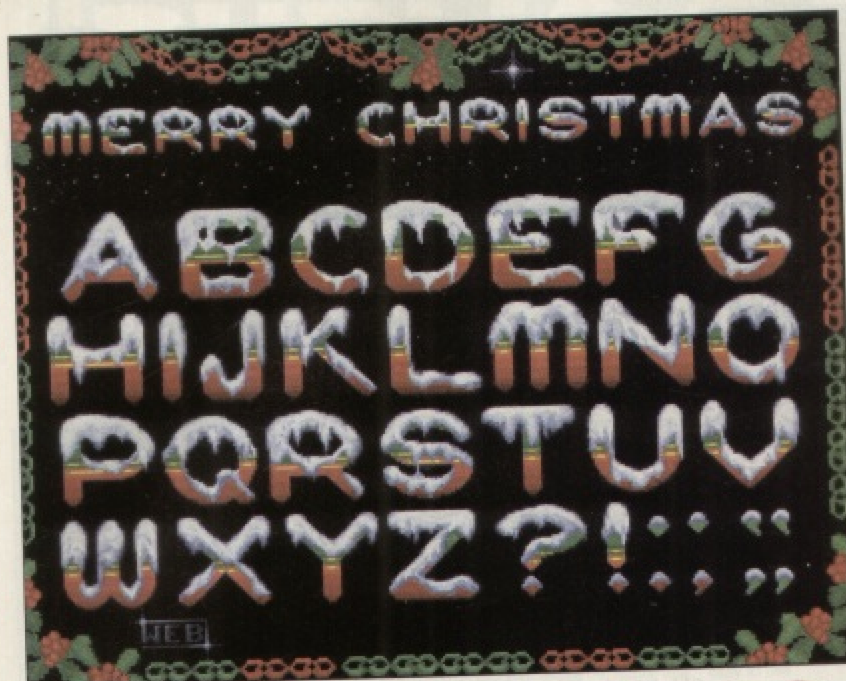


Available from: Valley PD, PO Box 15, Peterlee, Co Durham, SR8 1NZ. Tel: 091 5871195. Disk nos. Art 1a+b (Weddings), Art 80 (Kids and Animals). Price: £2.00 per disk + 50p P+P.

80%







BLUE ROSE FONTS 3

festive fonts

There's no need to get your sticky back plastic out this Christmas, just make all your cards on your Amiga with this disk of 15 colour bitmapped fonts. Or, you could use them to title your, "Here's Dad carving the turkey" home videos. In fact, most of the fonts are versatile enough to be useful well beyond the festive period. Each font is presented as a 32-colour IFF screen.

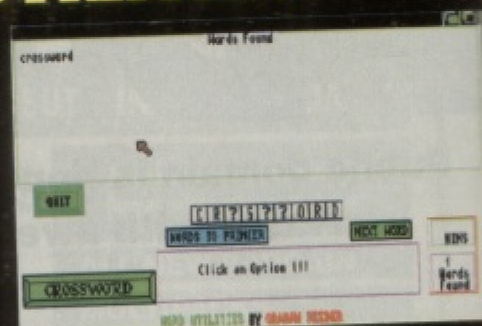
The second 16 colours are used for the fonts, while the rest are used to decorate the screen. Stencils have been set up so that you can pull the letters from the screens without taking bits from the background with them.

Available from: Blue Rose, Eddie Barry, 33 Glenmore Walk, Hilden, Lisburn. N Ireland. Disk no. BR Fonts 3. Price £2.00 including P+P.

85%

WORD UTILITIES

quiz solvers



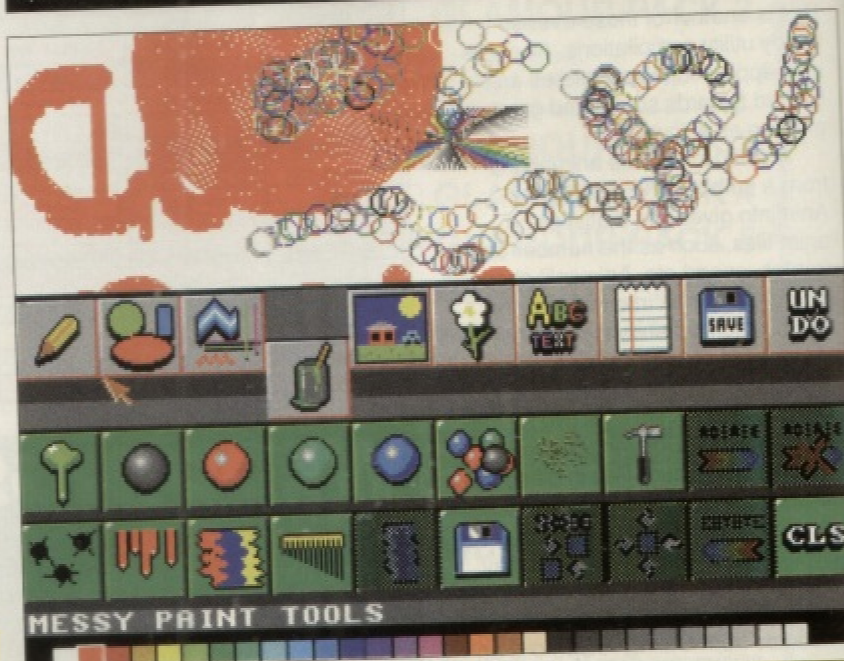
Are you one of those people who cheat at quizzes in magazines, and then pretend that you're really quite clever? If so, this is just what you've been waiting for.

There are four parts to the program. One is specifically aimed at hopeless crossword fans. You type in the letters you've got, along with any blanks, and the computer suggests a few words that would fit.

Then there are anagrams, which it attempts to solve by consulting its dictionary once more. It does this quite well, but it can take a while. Fortunately, it gives an estimated search time, and whenever it comes up with a possible solution, it lets you know straight away with an alarm bleep. Target Word finds words that include a specified selection of letters. There's also a pretty lame spell checker.

Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Tel: 0983 529594. Disk no. U784. Price: £2.50 including P+P.

67%



SUPERDARK 2.06

screen blankers

Screen burn is a common problem in any situation where a monitor displays the same screen for long periods at a time. The brighter sections actually wear out the tube and, after a while, the screen develops a permanent imprint of the menus, icons and windows.

Screen blankers have been popular on PCs and Macs for some time, and now some of the more popular blankers have made it over to the Amiga.

Superdark comes with a selection of 20 blankers for you to add to your Workbench. After setting up the basic options, all you need to do is add the Superdark program to your start-up sequence. Then, whenever you leave your machine for a bit, the blanker kicks in until you come back to the machine and move the mouse or touch the keyboard.

Available from: Cynostic PD, Office O1, New Enterprise Centre, Little Heath Industrial Estate, Old Church Road, Coventry, CV6 7NB. Tel: 0203 681687. Disk no. U0238. Price: £2.00 including P+P.

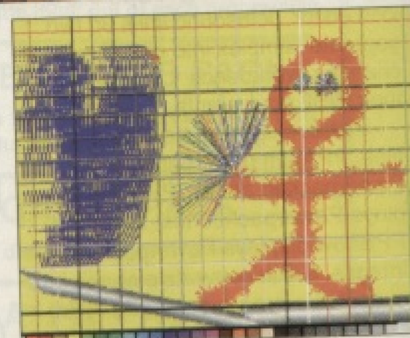
82%

ARTISTIX

kid's paint

I haven't made this much mess since the last CU AMIGA pub crawl. Artistix is the best alternative to drawing on the wallpaper yet devised. It doesn't pretend to be *Deluxe Paint*. Instead it's geared towards instant gratification, so there are no menus, just loads of big colourful icons.

You can splatter away all day with the dripping brushes, rainbow explosions, scrapers and spray guns. Obviously, this is aimed at kids rather than us adults – we'd never spend all morning messing about doing Rolf Harris impersonations, would we?



Available from: NBS, 1 Chain Lane, Newport, Isle of Wight. Tel: 0983 529594. Price: £2.50 including P+P.

82%

ART GALLERY

Art Gallery is your chance to show the world your latest Amiga masterpiece. Here's this month's batch of reader-art.

VAMPIRE MAMA

By **Lars Martensson** of Sweden.



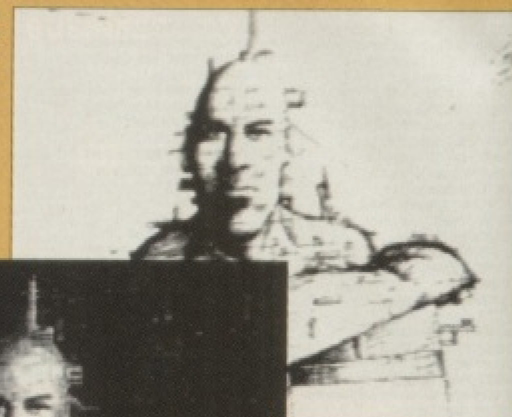
BREAKDOWN

By **P Feetham**.



SPACEHEAD

Jari Jokivuori's Spacehead began as a hand-drawn image, which was then digitised and enhanced with *DPaint*.



1 The original pen and paper drawing was digitised with VidiAmiga in 16 colour low res.



2 The white background was then blacked out and some of the details lost in the digitising process were replaced.



3 On a spare page, a new background was made up.



4 The two images were then pasted together to make the final picture.

DRAGON

The outline of **Rob Porter**'s Dragon was scanned into an Archimedes, saved as an MS-DOS GIF file, then converted to Amiga IFF format.



1 Once the outline was ready, it was coloured in radically-blue shades of blue.



2 Next came the background, which was created with the 'fill from brush' mode from *DPaint*'s fill panel.



3 The palette was then altered to give the background a darker, more realistic look.

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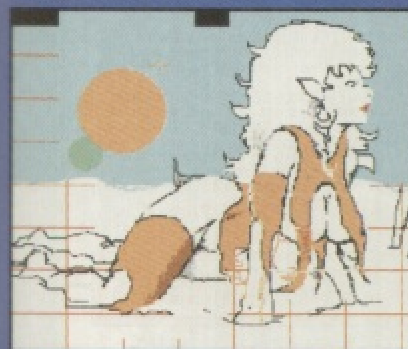


RABBITING

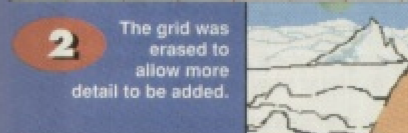
By **Mr M Kislingbury** of Southampton.

RAMELA

Paper-to-Amiga conversions are all the rage this month. Here's another one from **Rogne Naess** of Norway.



1 A grid was used to transfer the main details from paper into *DPaint.*



2 The grid was erased to allow more detail to be added.



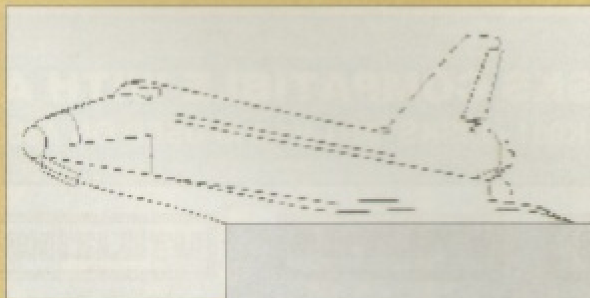
3 Then came a bit of a snow storm for extra dramatic effect.

4 Some more details and a looming black sky round it off perfectly.



SHUTTLE

Martin Edwards' Shuttle was drawn in just 16 colours in high res using our old favourite *DPaint.*



1 The outline came first, drawn with the line tool to ensure utmost accuracy.



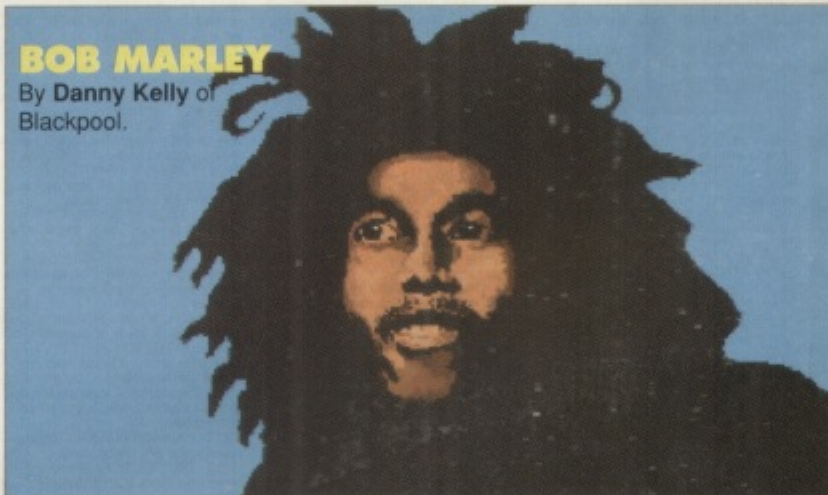
2 Surface detail was then added to the shuttle, with a little shading to give it depth.



3 Using the dithering option cleverly you can make the smooth graduated backdrop use just six colours.



4 The picture was finished off with the title 'Shuttle Discovery'.



BOB MARLEY

By **Danny Kelly** of Blackpool.

ART FOR ART'S SAKE

Do you want your shot at fame on our Art Gallery pages? Well, if so, send in your artwork on disk saved as iff files or, if very big, as a JPEG. Please send in at least four stages with a brief explanation of each stage. We regret that we cannot return disks.

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GAMES

G010 - POM POM GUNNER - Great graphics in this operation wolf style shoot em up.
G011 - AIR ACE 2 - A great World War 2 shoot em up.
G013 - THE REVENGE - Play ED-209 from Robocop in this violent shoot em up.
G015 - MEGABALL - A game that has received excellent reviews.
G016 - SIMPSONS - Televisions wacky family brought to life in this shoot em up construction kit game.
G020 - LAME ST-PORTS - A space invaders type game, the object being to defeat Atari.
G021 - MASTER OF THE TOWN - The aim of this game is to cause as much damage as possible.
G025 - DRAGONS CAVE - A dungeon master style puzzle game.
G026 - DOWN HILL CHALLENGE - Good ski simulater.
G028 - PIPELINE - Classic game but too fast on A1200/A4000 due to superior processor.
G039 - SMURFHUNT - Plenty of gun power in this shoot em up.
G040 - PARADOX - Funky puzzle game.
G043 - WIBBLE WORLD GIDDY - A superb platform game. This is one of the best public domain games ever.
G047 - SUPER PAKMAN - If you like Pak games, then get this!!! The best version to date.
G048 - NEIGHBOURS - (2 disks) An excellent graphic adventure, probably the best ever in PD.
G049 - FIGHTING WARRIORS - Budget version of Streetfighter 2 with good graphics.
G050 - BOMB JACKY - The spectrum classic with vastly improved graphics and sound.
G055 - TEXAS CHAINSAW MASSACRE - Inspired by a true story
G056 - 18 HOLE GOLF - The first ever public domain golf game. Great fun. (2 disks)
G057 - SPACE INVADERS 2 - A revised version of the classic game.
G059 - AMOS CRICKET - A good cricket simulater written in Amos.
G060 - TRON 2 - If you liked the original, then you can't miss this update. Faster and improved presentation.
G061 - ESCAPE - The aim of this excellent game is to run over tiles pushing specific ones down to open gates which allow you to reach the exit. Do it within a time limit to progress.
G062 - DR. MARIO - Similar to a NES game of similar name but better graphics.
G063 - ASSAULT - This average game involves you shooting all the characters that pop up in the windows.
G064 - DEATH BINGERS IN SPACE - A Xenon style shoot em up.
G065 - ZOMBIE APOCALYPSE - Good fun with lots of blood and guts.
G066 - STARIANS - Bizarre platform game.
G067 - SUPER SKODA CHALLENGE - A good game for up to four players with track editor etc.
G068 - PREMIER PICKS - Very unique football management game, very well presented.
G069 - BILLY BURGLAR - Dodge lights to escape from prison.
G070 - AMIGABOY - The n game Tetris is widely regarded at its best on the Gameboy. It has now been perfectly converted, with exact visual representation.
G071 - ACT OF WAR - A game of similar style to risk.
G072 - ADAMS FAMILY QUIZ - How much do you know?
G073 - PARACHUTE JOUST - Guide the skydiver to the ground.
G074 - CARD SHARP - Various card games.
G075 - JEWL - A brillant game.
G076 - TOP SECRET - Sorry, can't tell you!!!
G077 - JELLY QUEST - This game by David McGuire was described by Amiga Power quote "It's a superior brand of PD puzzle game, and its looks can only be described as - dead lush!" It went on to receive a 4 out of 5 star rating.
G078 - VENUS INVADERS - Excellent new version of space invaders.
G079 - THE RIGHT WAY - A great lemmings clone.
G080 - SUPER PRIX - A birds-eye-view racing game.
G081 - PATIENCE - The best public domain version of this card game.

UTILITIES

U001 - THE ULTIMATE BACKUP DISK - All the very best public domain copiers including DCopy, Tetracopy and XCopy.
U013 - BUSINESS CARD MAKER - A utility that can give professional results for use with any printer.
U021 - SYSTEM X - A telephone directory on disk. It even dials the number!!!
U136 - 600 BUSINESS LETTERS - Over 600 letters of basic format ready for quick and simple modification in any word processor.
U139 - PRINTER DRIVERS DISK - An excellent selection of drivers to get your printer working perfectly.
U140 - LABEL MAKER - Excellent utility allowing you to make your own disk labels. We have added several fonts to give you more design options.
U153 - MULTIPLAYER - Can play virtually any type of music module.
U167 - WINDOWBENCH - A replacement for Workbench V1.3 in the style of Microsoft Windows.
U168 - GAME TAMER V2.2 - Loads of cheats (over 250) for use in many top games.
U176 - UNDERSTANDING AMOS - A very useful learning aid.
U178 - AGRAPH - Create all kinds of pie charts, bar charts and line graphs.
U179 - CLI TUTOR - Loads of hints and tips.
U180 - DISK OPTIMISER - Speeds up loading by up to 15 times.
U181 - FORMS UNLIMITED - Create your own invoices and other forms with this neat utility.
U183 - MAGNUM - Create your own disk based magazine.
U184 - EDWORD - Excellent text editor.
U185 - POOLS PREDICTION - If you need more help (or money) try this disk.
U186 - VMORPH V2.0 - Excellent utility that allows you to create morph/warp animation. Requires 1MB.
U187 - THE MENU DISK - If you are interested in creating your own compilations etc. then get this disk. Its perfect for added presentation.
U188 - CLUB LEAGUE - A utility that allows you to edit and keep track of your teams division and league status.
U189 - SCREEN BLANKERS - A disk packed with screen blankers.
U190 - THE LITTLE OFFICE - One of the best small business programs available at the moment. Very popular.
U191 - VOICE CLI V5.5 - This utility allows you to control CLI with speech.
U192 - ACCOUNT MASTER - Written in Amos this is a very popular business utility of excellent quality.
U193 - SOFTWARE LISTER - This program is designed to keep track of your software collection.
U194 - DISKPRINT V3.5 - An integrated database and disk label printing utility.
U195 - RACE V1.6 - A disk that will work out the chance of a horse winning a race.
U196 - DRAW MAP V4.1 - There are two versions, this is the 1MB version. It allows you to create 2D and 3D maps. Quote U296 for 2MB version, which comes on 2 disks.
U197 - FOOTBALL LEAGUE EDITOR V1.1 - As soon as the results come in, you can monitor your teams latest position.
U198 - GOLF SCORES V1.8 - It can record the results of every round you play, store them and give an overall electronic score.
U199 - ANTI FLICKER - An aid to stop the flicker in Hi-Res mode during some programs operations.
U200 - AMICASH BANKIN - If you have a small business, this program is the best of its nature and highly recommended.
U201 - PUNT PROGRAM - Another prediction aid for the horses.
U202 - MONEY MANAGEMENT - Home accounts package capable of handling up to 12 different accounts.
U203 - EASY CALC V1.0 - This spreadsheet is designed to be both very user friendly and fast. It has an excellent built in help system.
U204 - KEYBOARD TRAINER V1.1 - Best public domain typing tutor available at present.
U205 - M-CAD - Computer aided design program.
U206 - NO ERRORS - Hides the hard errors on disks making all your corrupt disks usable once again.
U208 - 203 UTILITIES - The most utilities ever available on a single disk.

UTILITIES

U209 - UNDELETE - This utility allows you to get back stuff that was accidently deleted from disk.
U210 - JOYSTICK TESTER - A brilliant joystick testing program.
U211 - RED SECTOR DEMO MAKER - A 2 meg version of the most popular utility ever!!! Create stunning demos/megademos/intros. The special thing is that it has been modified to work with the A500+ and even better the A1200. (2 drives rec. A1200)
U212 - AIBB V5 - A good diagnostic program.
U213 - SYS INFO V3.11 - A disk that will let you know the technical status of your machine.
U214 - ENGINEERS KIT - A diagnostic disk, specially suited for engineers etc.
U215 - DISK REPAIRERS - Will allow you to try and make all your unusable disks work again.
U216 - AMIGA DIAGNOSTICS - Solve thousands of amiga problems with this diagnostics disk.
U217 - LAST WILL AND TESTAMENT - Write your own will.
U218 - MUSIC BASE UTILITY - Store your record/video collection.
U219 - ERROR INFO - Gives you a list of all amiga error codes and their meanings.
U220 - PC TASK V2.02 - IBM PC emulater it allows you to run the majority of PC software with no additional hardware. Now supports VGA, EGA, CGA and MDA. (DV)
U222 - REPAIR-IT 3 - Contains a selection of disk and hard drive repairing utilities. Excellent for saving that vital file.
U224 - SPECTRUM EMULATER - This is the best and latest version of the most popular emulater for the amiga. There are 68020/030 versions for new AGA amigas.(2 disks)
U225 - STOCK ANALYST - This is a technical analysis and securities tracking program which calculates when to buy and sell shares.
U226 - ASTRONOMY V2.0 - A menu driven astronomy program that calculates information about the Sun, Moon and planets. Help disk.
U227 - MING SHU CHINESE ASTROLOGY - Will create horoscopes in seconds. The complete aid.
U228 - COLOURED ICONS - Transfer your disks into colourful, well presented works of art with this database.
U229 - KIDS PAINT - An art package simplified for the younger amiga owners.
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U242 - LITTLE TRAVELLER V1.1 - This utility shows a world map and allows you to select any country for travel information. It then zooms in giving a close-up map with more information.
U243 - BANNER MAKER - Create spectacular printed banners.
U265 - PROTECTION - Keep unwanted users from playing with your amiga.
U266 - PARBENCH - Link up two Amiga's and communicate with each other.
U283 - TEXTENGINE V4.1 - Sent direct from author Nicholas Harvey, this excellent program has all known bugs fixed. Has 36,000 word spell checker.

EDUCATION

E001 - TOTAL CONCEPTS DINOSAURS - A book on disk appropriate for sensational Jurassic Park movie. Get it!!!
E002 - SCIENCE - Excellent learning aid to the difficult subject. (4 disks)
E003 - FRACTIONS AND SILHOUETTES - Good maths utility.
E004 - WORLD WAR 2 - Good history aid.
E006 - WORLD GEOGRAPHY - Very useful utility.
E007 - KIDS DISK 1 - Excellent reading utility.
E008 - LEARN AND PLAY 1 - For younger amiga users, very popular.
E009 - LEARN AND PLAY 2 - See above, usually ordered as a 2 disk set.
E010 - GCSE MATHS - Good, written by a teacher of the subject.
E011 - LANGUAGE TUTOR - French, Spanish, German and Italian.
E012 - AMIGAWORLD - This piece of educational software contains details on every country.

DEMOS

D004 - ARSEWIPE - Hilarious toilet role commercial.
D007 - FILLET THE FISH - Cartoon animation.
D019 - SIMPSONS SLIDESHOW - Pictures of televisions wacky family.
D023 - PUGGS IN SPACE - Another cartoon animation from the same person who brought you Fillet the Fish.
D025 - SAM FOX - Slideshow.
D035 - RUDE NOISES - Hilarious samples.
D036 - FAST CARS - Pictures of the worlds most exotic cars.
D074 - MADONNA LIKE A VIRGIN - Music put to naked slideshow of Madonna
D091 - SAFE SEX DEMO - Hilarious mixed samples.
D114 - NEIGHBOURS SLIDESHOW - Very old but still amusing pictures of the cast with drawn on special effects.
D121 - GIRLS ON FILM - Digitised animation.
D129 - SHOWERING GIRLS - Colour digitised slideshow.
D138 - WAR SIMULATER - Samples that could get you a day off school or work. Sounds of sickness and war. Try it down the phone!!!
D198 - BASIC INSTINCT - Digitised pictures from the film.
D199 - STRIP SLOT MACHINE

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U026 - TV GRAFFIX - Loads of backdrops etc. for use with genlock. Also fonts for Dpaint. (2 disks)
U169 - HARLEQUIN VIDEO ART 1 - Excellent collection of backdrops of superb quality for use with genlock.
U171 - HARLEQUIN FONTS 1 - Loads of excellent Hi-Res fonts.
U172 - HARLEQUIN FONTS 2 - More of the above.

VIRUS KILLER

V001 - SUPERKILLERS - Highly recommended as it could save you ££'s. Essential for hard disk owners. With no virus protection you are putting your entire software collection at risk. Regular updates to keep in touch with all virus activity. Separate versions for AGA machines.
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MD01 - MUSIC MODULES - A massive 10 disk collection of good quality music modules. All of soundtracker file type for use with RSI Demo maker, Noiseplayer and many other applications.

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G082 - AGA CHESS - An excellent game but you will need 4mb of ram to get it to work!!!
U001 - ULTIMATE BACKUP DISK - This compilation includes DCopy V3.0 which is probably the only copier that works successfully on the A1200/A4000.
U123 - WORKBENCH HACKS - Many useless special effects for workbench V3.0
U118 - MORE WORKBENCH HACKS - Guess what?
U255 - WB V3.0 INSTALL - If you need to install your hard disk then you need this.
U256 - A1200 DEGRADERS - An essential purchase for AGA owners. Includes Fake Fast Mem, The Degrader, Diskstart, Kill AGA V2 and Helpful hints.
U257 - VIEWTEK V1.03 - An essential purchase allowing you to display AGA graphics.
U258 - HDMEM - This utility allows your AGA machine to use your hard disk as virtual memory. If you've got a 80mb hard disk then you can have 80mb ram. Requires FMU, MMU etc.
U272 - WORKBENCH V3.0 SCREENS - Improve the appearence of workbench with these excellent backdrops.
D181 - TEAM HOI PLANNER GROOVE - This was the worlds first ever AGA megademo.
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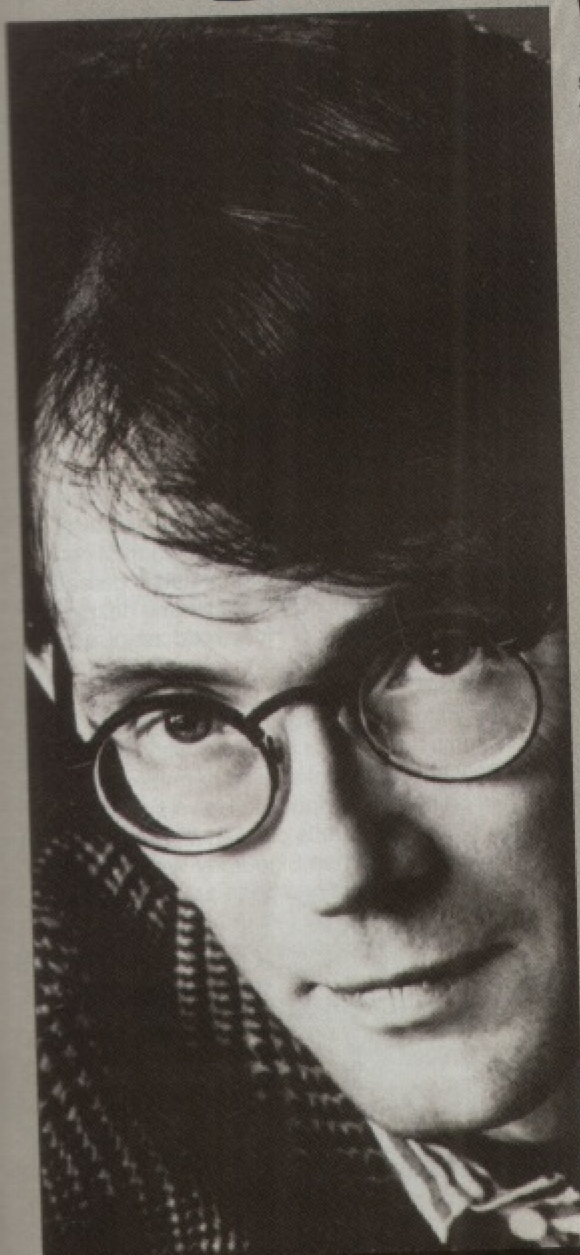
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Michelle Anthony talks to the Godfather of Cyperpunk – William Gibson. She delves deep into the psyche of the man who enshrined computer hackers as urban terrorists, and finds out why he is moving away from cyberpunk and into a new genre of fiction writing...

PROFILES

Cyberfeature



A clip from the forthcoming movie, Tomorrow Calling, based on a short story by Gibson.

William Gibson is a fake, a charlatan and he doesn't much care who knows it – and nor do the countless hardware companies and software manufacturers who persistently ask him to endorse their products.

Gibson was turboboosted to cult status and beyond by his 1984 science fiction classic *Neuromancer*, the debut novel which won him a hat-trick of awards (Hugo, Nebula and Philip K Dick), sold over a million copies and introduced the world to cyberpunk. The storyline was based around a fast-on-the-keyboard computer cowboy, Case, who was employed along with a superbad, supersexy minder to break into the computer of a giant corporation. Even ten years on, it is still regarded by any would-be hacker's bible.

However, this is a problem that continues to dog the 45-year-old author to this day. At readings and conventions, wide-eyed crew representatives get on his 'Case', announcing breathlessly that they idolise the character and have adopted him as a role model.

'At this point,' says Gibson mouth pursing drolly, 'I tell them he's a sociopath, a drug addict incapable of a normal relationship.' Gibson may have enshrined hackers as computer terrorists but he is on record describing computer hackers as 'really scary and kind of creepy'.

Left: William Gibson: whose fictional character Case is regarded as a hero by many computer hackers.

The superficial image of Gibson suggested by a skim through the books, of an intense, anarchistic techno genius is a myth. *Neuromancer* was written on a manual typewriter and he confesses to being only barely computer literate, even now. He once candidly described the book as, 'a con game… like writing a term paper about a book you haven't read' and confesses without hesitation to having used E-mail only once and spending none of his precious time wading through bulletin boards. Gibson, though, is no technophobe, it's simply that his genius lies within the power of his vision and the scope of his imagination and that's what all those hardware manufacturers want to buy into: his ideas and a name that's synonymous with the phrase 'cutting-edge'.

A LOOK TO THE FUTURE

Neuromancer and the two subsequent books which complete the trilogy, *Count Zero* and *Mona Lisa Overdrive* are packed to overflow with futuristic ideas, hi-tech weaponry and state-of-the art gadgetry. Yet the 21st Century world he outlines in them holds little attraction: overpopulated with a vast underclass of low-life, junkies and hustlers feeding off one another in a giant metropolis known as the Sprawl which stretches along the »





Virtual Light, Gibson's latest book is a brekaway from cyberpunk. The book is set far less into the future than normal for Gibson. The plot centres around a female bike messenger who inadvertently steals a rapacious property company's development plans.

» entire eastern seaboard of the States. Nation politics has ceased to exist and giant corporations, Zibatsus, hold power and vie for position in the eternal scrabble for money and priceless data. Basically, the entire social fabric has collapsed under the weight of greed and technology run wild. This dark dystopia is offset by the energy that pulses through the books, the frantic action and the jargonese that spews from its characters.

Gibson, who chooses to live with his wife and two children in the relative calm of Vancouver, Canada rather than Silicon Valley, California, readily admits to deep-rooted ambivalence about the future that he describes as 'the only sane response' while pointing out that, 'all technologies are morally neutral until they're applied.'

Today, Gibson is still the leading exponent of cyberpunk not least since the concept has virtually crossed into everyday existence. Asked whether that makes him a prophet and he literally cringes at the thought: 'No, pleeeease! I'm simply bringing people up to speed. At the time of writing *Neuromancer* it all seemed very obvious to me, in fact I was worried that I wasn't working hard enough.' That those books still buzz with energy instead of appearing hopelessly dated is testament to the power of Gibson's imagination. He is wont to point out that *Neuromancer* is as old as the Apple Macintosh he now works on and identifies a couple of major flaws in that *Neuromancer* still assumes the existence of Soviet Russia and has no mention of AIDS – Case and Molly have unprotected sex moments after meeting. It was *Neuromancer* that introduced the world to the word 'cyberspace' described as a 'consensual hallucination' or as Bruce Sterling (with whom Gibson wrote 1991's *The Difference Engine:* the alternative reality that posited what kind of world might have existed had Charles Babbage succeeded in ushering in the computer age during the Industrial Revolution) put it 'the place where a telephone conversation happens'. Gibson's hackers literally jack themselves into their machines and enter an hallucinatory 3D computer world inhabited by monolithic towers of data known as the Matrix. This visual representation inspired scientists developing virtual reality and it is to this medium that Gibson has turned with his latest book, *Virtual Light*.

Virtual Light is the story of a female cycle messenger, Chevette, who steals a pair of spectacles at a party unaware of the fact that they are VR sunglasses embedded with a microchip containing stolen blueprints for the redevelopment of San Francisco by a rapacious property corporation. Rydell, a rent-a-cop, is hired to catch her and bring back the shades, but instead the two hook up and go on the run.

Set just into the next century, less far in the future than is usual for Gibson, the book is a deliberate attempt to break away from the cyberpunk genre which he feels he has exhausted. 'I was in danger of repeating myself and I didn't want to be releasing *Neuromancer* 23 in a few years time which would be very easy to do.'

The Virtual Reality angle is Gibson's way of demonstrating his feelings about a technology which he described recently in *The Face* as 'like freebasing television'. Gibson explains that in the book he employs the sort of VR technology available today in the form of top end hardware: 'But I've made it widespread, brought down the price.' Notably, Rydell's character only uses it twice and one of those is for 'the VR equivalent of a conference call' with the seedy hacker network known as the Republic of Desire. In Gibson's near-future he points out acidly, the technology hasn't brought about 'any utopian effects at all'.

Virtual Light is far less dense than much of his other work but, claims Gibson, this is not an attempt to crossover as a mainstream writer, 'One of my objectives was to comment on some of the responses I've had to my work'. He does this by bringing events closer, thus Loveless, the book's psychopathic hitman appears as its most grisly character, whereas 'if he appeared in *Count Zero*,' grins Gibson relishing the idea, 'You wouldn't pay him any mind. He's the sort of character Turner would murder, shove under a car and go have a beer.'

Despite being set less far into the future, *Virtual Light* still vibrates with ideas that fulfill Gibson's oft quoted remark that his 'real business has less to do with predicting technological change than making evident its excesses'. It also acts as a critique of contemporary morals: on the corporate vandalism of property speculators and scientific research. The rich live in giant sterile condos hermetically sealed off from the outside world. They are protected by private security since law and order has broken down so far as to outstretch the resources of the police. It also contains some brilliant images like an Oakland bridge, wrecked by an earthquake, closed at both ends and now populated by the city's homeless as a vast steel shantytown.

GIBSON ON FILM

Like much of Gibson's work *Virtual Light* has already been optioned for the big screen. But, until now, not a single one has materialised. That changed this month when a 12-minute short film entitled Tomorrow Calling – about a photographer who slips into an alternate, idealised retro-futuristic reality – debuted at the London Film Festival. Based on Gibson's short story, *The Gernsback Continuum*, (published in the collection *Burning Chrome*) it has the distinction of being the first Gibson work to reach the cinema and is guaranteed a slot on Channel Four some time next year. It's some way off a major Hollywood adaptation b it's a start, agrees Gibson who jokes half-seriousl that it will be 'the only really good adaptation of one of my stories that anyone will ever make.'

Gibson's has had his problems with Hollywoo – not only have his books failed to make it to cellu loid, but so has his scriptwork. He was responsib for one of the early drafts of *Alien III*, but his version came to grief when Sigourney Weaver, who character of Ripley he had been asked to write o (she spends much of the film in a coma) change her mind and agreed to take on the part. The onl thing that survived several further rewrites was th concept of barcoding the criminals on the penal colony. Again Gibson professes to be unconcern pointing out that such hiccups are not held again you and that he was paid handsomely for the pr ject. 'It was earn as you learn,' he smiles.

In fact, there is every prospect of a Gibson work reaching cinemas within a couple of years. *Johnny Mnemonic* (another short story to be found in *Burn Chrome*) is shortly to begin production with a Gibso script. Ironically, *Neuromancer* the oldest project o tied up in 1986 – and the most subject to rumours still a long way from happening. Again, Gibson clai to be unconcerned: 'I'm happy with that because m feeling is that we're a few years away from having technology to make it. It could be made now, but it wouldn't have the sort of special effects it demand and it would have to have a massive budget.'

The sort of budget he's talking about can be deduced from an encounter he had with Ridley Sc director of Bladerunner whom he met a couple of years ago. 'He pointed out that in dollar terms now thought that film would cost $180m to recreate tod – a budget twice that of Terminator II. There agair like the book, it might turn out to be the best sci-fi movie ever made. CU



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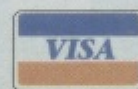
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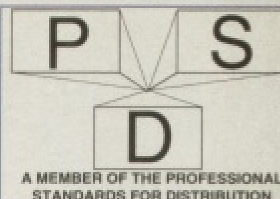
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A LOOK TO THE FUTURE



PROFILES

Chris Crawford is a man ready to break the mould. After two years of intensive development, he has almost finished a product that will change everyone's conception of computer entertainment. Tony Dillon takes a look at what the future hold for us.

Chris Crawford has to be one of the most influential designers to ever come out of the US. Not only is he responsible for classic games like Balance Of Power, *but he also has some very strong opinions concerning the future of games:*

'I feel we are entering a very exciting time provided we focus on more general ideas rather than sticking to the narrow terms of computer entertainment. If we adhere to narrow terms, I think we're actually looking at something quite depressing. A kind of decay, really.

'Computer games are entering the same kind of rut that video games have already entered. We've actually had three creative surges. The first appeared with the arcade game, the coin-operated machine. All the innovation was in that field, and it reached its peak in 1982. Video games quickly followed, and for a while they were the main source of innovation and now they have settled down into formula game design. The market is well understood. We know what the kids want, so we keep grinding out variations on that. Video games are creatively stagnant now, and I think computer games are now entering the same phase.

'Everybody in the system understands what's expected of them. The retailers know what sells, the distributors know what sells, the publishers know what sells and most importantly the customers know. In the positive sense, the customers that buy games know what to expect from a game, and in the negative sense, an awful lot of potential customers know what they would be getting so they aren't buying. Games are no longer an entertainment medium. They are a hobby. We have made that fundamental transition, which means that games are reaching the stagnation stage. But there's a new wave coming. It's going to be both exciting, innovative and confusing. It's going to be a revolution! It's funny, but when people use the term 'revolution', they always think it's going to be great and it's going to be wonderful! But real revolutions are confusing, they're frustrating and a lot of good people get hurt i.e. some good companies and people may lose out. The basis of this revolution is not going to be games, though. There's no real term we can use to describe it. We might use 'Multimedia', but I think there's serious problems with that term.'

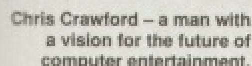
SO WHAT KIND OF FUTURE ARE WE LOOKING AT?

'I don't think we're going to be looking at souped-up versions of what we have now. I don't suppose we'll be seeing really spiffing shoot 'em up games either. Neither will be seeing any hairy versions of *Civilisation* or flight simulators or *Wing Commander*. I think that the central motif of the interactive products of

the future is going to revolve around a pithy little slogan that I like which is, 'People, Not Things'. That is, the injection of characters into our products with some life to them; characters which have feeling!"

To emphasise the point, Chris has been developing a project for two years on this theme of people not things.

'My basic design goal is to get a game with these characters in it. These characters will have feelings and behave in emotionally significant ways. I'm trying to get away from the dehumanised style that is so common now, where the whole focus of a game is objects. Spatial reasoning and resource management will play a large part in the new games. I want to create something more like an interactive story, where the real focus of the game is interaction with characters. This is something I've found incredibly difficult to pursue, as everything I've ever thought about design has had to change. But I have a working program now. I have an interactive story with characters who behave in an interesting way. They're not at all like the cardboard characters that we currently see. It's still rough, but I can certify that it really works.



Chris Crawford – a man with a vision for the future of computer entertainment.

'The working title of the product is *L'Morte D'Arture* – it's based on the Arthurian legends. Basically, there are about two dozen people who are running around doing all sorts of things to each other, and you are King Arthur who gets sucked into all of these little intriguing plots, most of which are fairly petty. Some of them are romantic, some of them are proprietary. There are pride and revenge issues... imagine a bit soap opera with all of these people pursuing their own petty interests. All these people come running to you whenever someone breaks the rules because you're the King, and you're supposed to sort out the mess!

'The interface is quite unconventional. It's all talking. All you see in the interface is people's faces, and all the faces have emotional expressions on. This is a major development, it's not the stupid stuff where an artist does a picture of Fred, with just two or three variations of Fred's face. I have a library of 106 facial expressions, and I can slap any expression onto any character's face, and it looks right. I believe it's a major technological breakthrough, and it is the least of the breakthroughs. Anyway, you see the face, and in one panel of the screen you see their words as they talk to you, as they tell you what's on their mind. To respond, you have a simple menu of responses you can give. That's all there is, but there are hundreds and hundreds of these things, and the combinations they generate run into trillions!'

There are factions out there who already complain that kids are spending too much time in front of computers. How will they react when they find that you are offering them a complete new universe to play in, friends included?

'That isn't an issue for me, because this product simply isn't for children in any way. This will bore kids. All you do in the game is talk to people! You don't get to blast them with fireballs, you don't get to chop any heads off, there are no explosions, there are no bulging breasts. The characters don't go around half naked with big muscles. This is drama! Kids don't like that! This is definitely an adult game. It is also adult in the sense that there is serious sex in this game! You, as Arthur, can have sex with characters!'

If that doesn't leave you panting for more information, then I don't know what will. With any luck, we'll have some more news on this hot new 'game' sometime early next year. Until then, you'll just have to make do with some real-life friends. CU

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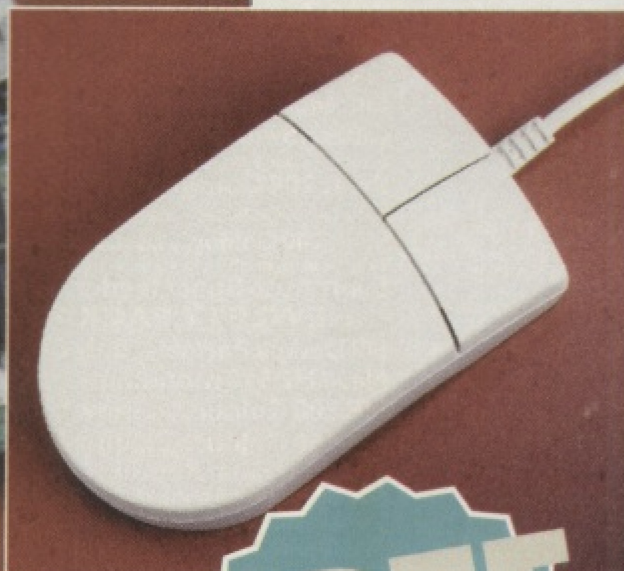
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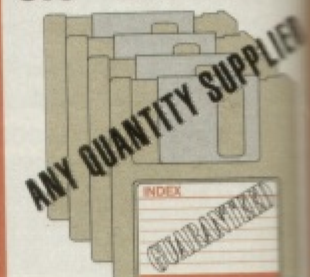
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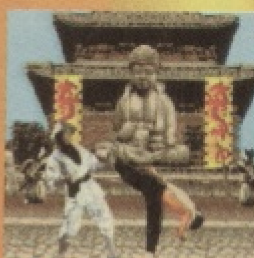
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Alien Breed 2


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SCREEN SCENE

With a clutch of exclusives and more special reviews than all the worried turkeys out there at the moment, here's CU AMIGA's guide to the Amiga games scene.

A CU Screen Star is for games scoring 85%-92%. If a game gets one of these, it'll be of lasting quality and you can rest assured that, if you decide to purchase it, you won't be wasting your money.





93% and a game's worth a Superstar. We hardly throw them around, but if a game gets one it'll be completely outstanding.

CHRISTMAS IS COMING...

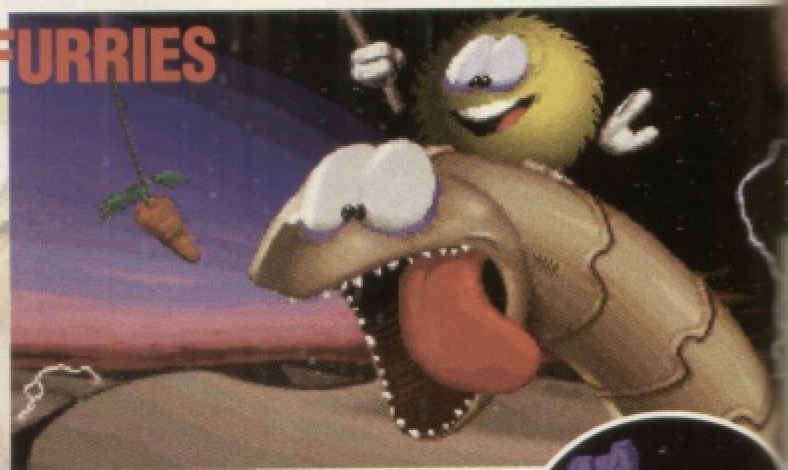
Welcome to our special Hot Games supplement. In the run up to December the Amiga games scene takes on a special significance with all the software houses working feverishly to churn out their hoped-for-hits in time for the Christmas buying frenzy. In a tribute to their hard work and to keep you absolutely up-to-date on forthcoming smashes we've put together this special. Over the next 32 pages we'll be scrutinising forthcoming games and giving you the lowdown on where to spend your hard earned cash.



FIRST IMPRESSIONS

This month's First Impressions is crammed full of the games software houses are trying to push out before Santa's season hits us. it's a head-to-head games challenge where only one can come out on top.

FURY OF THE FURRIES
MINDSCAPE



THE GAMEPLAY: Do you remember *Tiny Sqweeks*? Yes? Well, forget it now 'cos even though this game features the same characters and was programmed by the same team it doesn't bear that close a resemblance to its forebear. What we have here is a pseudo *Lemmings*-type clone thingummy. In other words, you've got four small cute creatures, each with their own unique abilities (fireball throwing, rope swinging, swimming, eating.), who must be guided across a hostile landscape to reach some obscure objective. Why they're doing it isn't important, what they must do is solve the puzzles and avoid the attacking baddies.

WHAT'S NEW: Puzzlers are not a new concept. This viewpoint has been used countless times before and the limited use of certain abilities is not new either.

Worth mentioning, but not strictly fresh, are the various homages to other classic games. Look carefully and you'll spot *Space Invaders* and *Indiana Jones*.

BEHIND THE SCENES: Kalisto are a French programming house based in the Bordeaux region. They've worked on other titles such as *Tiny Sqweeks* and, umm... that's it.

FIRST IMPRESSIONS: Looking like *Lemmings* never did anyone any harm, unless you suddenly have an urge to dash off the nearest cliff. It's not as frantic as Psygnosis' monster hit nor as colourful but there's a good chance that the little furries could grab the public's hearts and minds in a similar way to *Lemmings*.

Puzzle fanatics shouldn't find any problem with the low-level conundrums set here but you'll also need a good amount of dexterous joystick skills if you want to complete the game. It has the potential to be a success.

SNAPPERAZZI
SUN GAMES



THE GAMEPLAY: Starring Snazzi, a star-struck alien journo, this game centres around his attempts to take pics of celebrities for publication in his favourite newspaper, *The Sun*. Yes, you guessed it, it's a platform game. Run around, pick up extra film, find the sub-games, avoid the bad blocks and Page 3 girls' kisses and you'll end up with loads of cash. That's about it really.



WHAT'S NEW: As *The Sun* would say, 'Bugger all!' There are no coding innovations whatsoever, the graphics are fairly standard and so are the sound effects. The gameplay is the usual platform style.

BEHIND THE SCENES: It's the first game to be published by *The Sun*. However, using their substantial contacts they've secured sponsorship from both Domino's Pizza and Leaf (who make Fizzy Chewits). What this sponsorship converts into is an extremely generous amount of in-game promotion, ranging from the, 'Life's always better in *The Sun*' hoardings to the Domino's Pizza and Chewits shops.

FIRST IMPRESSIONS: Initially, the garish colours and dodgy sound effects are likely to send you towards the off button. If you can resist this urge for a short while you'll soon see that *Snapperazzi* is actually a fairly-playable platformer. The controls are easy to get to grips with though do leave something to be desired when it comes to balancing on the edges of platforms.

IMPRESSIONS









RALLY
EUROPRESS

THE GAMEPLAY: Based on the Network Q RAC Rally, the game puts you behind the wheel of one of the turbo charged four wheeled super cars. The RAC Rally is actually the final stage of the World Rally Championships and attracts all of the top off/on road drivers in existence. The race is composed of separate stages starting near Birmingham and ending somewhere in Wales. This gives the drivers the chance to race on a variety of surfaces in a number of weather conditions. All of these a simulated exactly in the game with every twist and turn matching those of the real tracks.

WHAT'S NEW: Something and nothing. Most driving games plonk you behind the wheel of a badly-drawn car racing on some featureless endlessly looping track. *Rally* is different. The project manager actually travelled along the real course shooting it all with a video camera. These images were then digitised and crammed into the game. So, you end up feeling like you're there, driving through the forests and hills of Wales, smashing into the spectators in Birmingham, etc.

BEHIND THE SCENES: As this is the official version of the RAC Rally, the team had excellent access to all the real Rally Teams. This enabled them to get exact specs on the vehicles as well as getting into them to photograph their interiors. In addition, the game will include digitised voices of the co-drivers telling you when to turn and brake.

FIRST IMPRESSIONS: Despite managing to stuff it full of beautiful digitised pics, Europress have used some great coding to keep the speed up at a blistering pace. With the advent of CD Rally, this could be the game to lead the way for future driving games.

CHRISTMAS Top 10

Here's Jon's predictions* as to what the Top Ten Amiga games this Crimbo will be. Of course, it's completely made up and is only based on Jon's highly dubious games experience. *[Laugh, I nearly cried. Ed.]* In other words, it's likely to be completely off target!

If you think you can do better jot down your predictions for the top five games for the week ending December 24th, mark it 'XMAS TOP FIVE' and send it to us at the usual address. The first correct entry out of the hat will win all five games.

Entries to arrive no later than December 17th.

1. *Mortal Kombat* (Virgin)
2. *Frontier – Elite 2* (Gametek)
3. *Cannon Fodder* (Virgin)
4. *Body Blows Galactic* (Team 17)
5. *Terminator 2 – The Arcade Game* (Virgin)
6. *Alien Breed 2* (Team 17)
7. *Elfmania* (Renegade)
8. *Simon the Sorcerer* (Adventuresoft)
9. *Jurassic Park* (Ocean)
10. *Uridium 2* (Renegade)

*** These charts are supplied courtesy of Jon Sloan's fevered imagination.**

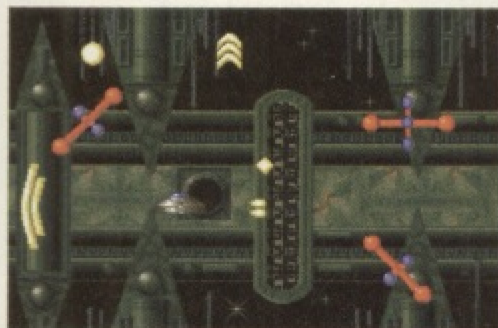
LUNAR C
MINDSCAPE

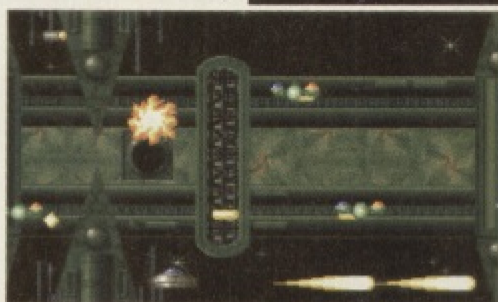
THE GAMEPLAY: Fly a saucer-shaped ship through endless waves of attacking aliens in this horizontally scrolling shoot 'em up. If you manage to tag all the ships in a wave the last one will release a capsule for you to collect. Collect enough capsules and you'll get to choose from a selection of special weapons.

WHAT'S NEW: Not a sausage. This is one derivative blast, but then it's not claiming to be anything else. However, what is unique is that this is the first game to be added on to a CD version of an already existing game. We reviewed *Overkill* in the last issue as an AGA game. Mindscape have now decided to release it on the CD32 and, to give the CD added value, have stuck *Lunar C* on the same disc.

BEHIND THE SCENES: Brought to you by DigiSoft, the coders behind *Overkill* and *Woody's World*, *Lunar C* is one of the games that the team have been keeping on the back burner. Originally called *Chaotic* it takes its name from the ever-increasing difficulty players face and from the way the alien attack waves increase in number and intensity the further you get in the game.

FIRST IMPRESSIONS: What can I tell you, we've all seen this type of game before, on numerous occasions. If it were a standalone product, it would only be worth releasing on a budget label. However, as an add on to give *Overkill CD* more value for money it's a smart move. Fairly playable in a forgettable kind of way.







MORTAL KOMBAT

CU AMIGA SUPER STAR

'Get over here,' screamed Dan, as Jon Sloan scampered dutifully to review the bloodiest Amiga game ever.

If you read my preview a couple of issues ago or even had only half an eye on the media over the past couple of months you can't have helped but notice that *Mortal Kombat* means big business. From its humble beginnings as an arcade machine through inadvertent promotion by rapper Ice T to the lofty heights of Mortal Monday, this game's gone from strength to strength. It's even had a whole episode of *Gamesmaster* devoted to it! Amidst all this hype the Amiga version has been acting like a little lost lamb. Well, it's time that we shouted its praises 'cos let me tell you it's a wolf in sheep's clothing. *Mortal Kombat* is the slickest, fastest, smoothest beat 'em up ever to poke its bloody nose into the Amiga scene.



'Take that you bounder!' Scorpion and Sub-Zero slug it our to decide who has the right to wear the silliest costume. My vote's with Scorpion – mustard is such an icky colour.

THICK PLOT

Set on an island governed by the evil Shang Tsung, seven fighters have gathered together to take part in a martial arts tournament. Each has their own reason for coming, but they all have one goal – to beat the rest! They're a mixed bunch too. Starting off there's Sonya who, despite looking like a refugee from a Jane Fonda exercise video, has a pair of thighs men die for.

Next up there's Liu Kang, a proud Shaolin monk with a wicked spinning kick. And then there's Johnny Cage, a movie star with a nut cracking splits technique. There's more, but for a detailed character assassination cast your eyes at the panel at the bottom of the page.

Despite being converted from the arcade version via the Mega



Raiden's buzzing with electricity and Johnny's charging to meet him.

A Death in the Life of...

The most controversial element of *Mortal Kombat*, concerning the level of violence in the game, is surely the incorporation of death moves. Each fighter has their own special move which culminates in the opponent falling in a bloody heap, usually minus a vital piece of anatomy. The reason for this gratuitous display of violence? They get a 1,000 point fatality bonus. God, what mercenary buggers!

Anyway, here's a rundown of the biographies of each warrior and the various death moves you'll get to see in the game.



SCORPION

AGE: Dead
HEIGHT: 6'2"
WEIGHT: 210lbs
ORIGIN: Hades
OCCUPATION: Unknown

As the reincarnated spirit of a man killed by Sub Zero, Scorpion only has a limited amount of time on Earth to kill the other Ninja before his wicked demons come for him. Luckily, his martial skills should be enough for him to have his revenge before he is sent back to Hell. He carries a spear and is not afraid to use it! He throws it at the neck and then hauls you to him with a scream of 'Get over here!' Stunned opponents can only watch in terror as he whips his mask off to reveal a skeletal skull. Then he wastes no time blowing a waft of deadly fiery breath charcoaling the poor suckers he beats.



KANO

AGE: 35
HEIGHT: 6'
WEIGHT: 205lbs
ORIGIN: Unknown
OCCUPATION: Criminal

This guy's only got two things on his mind – money and the little bits of goo you get after nutting someone! He's entered the tournament for one purpose – to get hold of Shang Tsung's fortune. His fearsome Black Dragon gang are poised to attack once he's won.

The only other character to carry a weapon he throws knives at his victims before dashing over to smack them on the nose with his metal head plate. His killing blow is one of his goriest weapons as he plunges his fist into the chest to rip out the opponent's still-beating heart.



Drive to the Amiga, Probe Software have stayed faithful to the original and kept all the blocks, kicks, punches and special moves as well as the gore. It's this aspect of the game that has caused a great deal of controversy, so much so that there have been calls to ban it. You see, when you beat an opponent there's none of the namby pamby bowing and shaking of hands you see in real life martial arts. In *Mortal Kombat* you have the opportunity to tear another combatant's heart out or punch their head clean off. That wouldn't be so bad if the character sprites were cartoony or evidently computer generated, but *MK* uses massive digitised pics of real actors. To make matters worse, virtually every blow that lands is accompanied by a gout of crimson blood and a nerve shaking squelch. Mary Whitehouse aside, it makes for an incredibly realistic bout of martial mayhem.

IN THE BEGINNING...

Bally Midway, the owners of the coin op version, went through many character revisions before arriving at the group you see today. Here's a light hearted look at some of the fighters who didn't quite make it.

SYNS BALDING

Northern master of the ancient art of Ecky Thump, this 20-stone behemoth could crush you flat with his extending beer belly and his bad breath roasts opponents at 50 feet. Nicknamed Anna Gram his special move uses the deadly black pudding boomerang which homes in on its target.

COUNT ANT

After starting life as an eight stone weakling Count Ant spent many years studying the dark arts of No Can Do. Don't let his wimpy exterior fool you though 'cos exponents of this mysterious system have been known to leave their opponents in stitches... with laughter.

S. BYRON

Another strange one this, Byron is a skilled journo. With an insatiable desire to put other people down he would have been one to watch. His trick is to carefully place himself so that the light reflecting off his specs blinds other fighters. For the few seconds when they're stunned by his brilliance he sneaks up for a crafty hit.


'Get over here!' is Scorpion's favourite quote. He uses it as he spears unfortunate opponents in the neck with his hook.

FIGHTING ON

Players progress in *MK* by taking on all the other fighters in one-on-one matches before fighting a mirror image of their current character. If you're tough enough to get through all that it's on to a series of three endurance matches where you face a pair of opponents. You fight them one at a time but you only get one bar of energy to their two. So, every blow you receive is like being hit twice. Only superb competitors can manage to get past this stage to take on the mighty Goro, a four-armed alien prince and the current tournament champion. If that wasn't enough, beat him and you're on to the master of them all, Shang Tsung. This soul-stealing ancient monk can warp himself into any other character and utilise all their special moves, so it's like fighting every other character all over again. It truly is an awesome game and, even on the easiest difficulty setting, it'll take you ages to complete.

Goro is one tough dude. You'll need all your missile attacks to weaken him before the kill.




Despite looking like Bruce Lee, Kang isn't invincible. It's up to you to help him to win.

WIRED UP

On loading the game my first reaction was to look for the wires leading to the coin op machine – it's such a close match. If you don't believe me take a peek at the panel comparing the versions. The colours are so vibrant and the sound is a perfect arcade match, even down to the digitised speech. Shang Tsung's cry of 'Finish Him!' and Scorpion's 'Get Over Here' send shivers down your spine. All your favourite moves are in there »

SONYA BLADE

AGE: 26
HEIGHT: 5' 10"
WEIGHT: 140lbs
ORIGIN: USA
OCCUPATION: Task Force Lt.

Sonya followed Kano onto the island in the hope of snaring him once and for all. Her motives are far from romantic though. She wants to see him behind bars for all the years of drug dealing and killing he's been doing. She's got three special moves down her very tight leotards. Leaping into the air she can fly across the screen to punch an opponent before landing, doing a handstand and gripping him between her muscular thighs *[Steady on, I'm getting steamed up... Ed.]*. Her death move involves blowing a kiss which, when it lands, turns her prey into a pile of ashes. Fans of trivia might like to note that Probe have nicknamed this move 'The Blow Job,' though I'm not sure why.



JOHNNY CAGE

AGE: 29
HEIGHT: 6'1"
WEIGHT: 200lbs
ORIGIN: USA
OCCUPATION: Actor

Bearing an uncanny resemblance to Jean Claude Van Damme in the film *Bloodsport* (which, incidentally, is also about an illegal martial arts tournament – spooky!) Johnny entered the tournament for a bit of fun. It's a shame he didn't realise it would be a fight to the death. He's no wimp though and can deliver a punishing shadow kick as well as dropping down into the splits for an eye watering gripe of his opponent's groin. He kills his opponents by charging up and throwing a huge uppercut which then tears the unfortunate other guy's head off. (How nice!)



RAIDEN

AGE: Immortal
HEIGHT: 7'
WEIGHT: 350lbs
ORIGIN: The Universal Planes of Being
OCCUPATION: Thunder God

Raiden entered the tournament when challenged by Shang Tsung who's after his soul to gain immortality. If I were Shang I wouldn't want this guy's brand of immortality. After all he can be killed – bit of a contradiction there. His special moves are something to behold as he shoots bolts of lightning and teleports to different parts of the screen. To dispose of unworthy fighters he fires off a bolt of specially charged lightning which explodes the target's head in a shower of goo.





IN COMPARISON

Mortal Kombat has been phenomenally successful on all the formats that it has appeared on. And there's no doubt that it'll be a smash on the Amiga too. But the question is how does the Amiga one compare to its console cousins and the arcade original? Well, we've grabbed some shots of all four versions, see if you can spot the difference before you check the captions out.



» too. From Sub Zero's freeze ray to Sonya's thigh throw, every blow has been included. What's more they're easy to perform. Unlike some other beat 'em ups I could mention you choose what to throw and when to throw it. There had been some speculation over how Probe would achieve this. Rumours abounded that you would have to use a fiddly combination of joystick and keyboard. Fortunately, they abandoned that method and opted for a standard joystick or joypad control. Now, although *Mortal* is still playable with a normal joystick, you will need a joypad or dedicated two-button stick to get the most out of it.

Leaving comparisons aside for the moment, the difficulty curve has been pitched almost to perfection. On the Easy setting novices should be able to have one or two bouts before their lungs are torn out. And with a little practice you'll soon make it to the Endurance matches. However, only very good players will have any chance on the Very Hard setting. As Probe have used the arcade code and graphics for this version all the fighters move exactly as they do on the coin op. This means that an increase in difficulty setting doesn't just make things move faster, the opponents actually seem more intelligent. You'll get nowhere trying to use the same moves over and over again. Also, it's no good just using missile attacks from a distance 'cos, at best, you'll only get two in before the computer reads what you're doing and counteracts. I don't know how Probe managed it but fighting the CPU is like fighting another human player: it thinks and reacts!

BLOODY BUT UNBOWED

Having played *Street Fighter* on most formats I almost wept with frustration when I saw how US Gold butchered the Amiga version. So, it was with a heavy and skeptical heart that I approached *Mortal.* I couldn't have been more wrong. Probe may have taken their time but it's paid off. *Mortal Kombat* is a dream come true – a good arcade conversion. This game will set the standards for Amiga beat 'em ups for some time to come. CU

WERE YOU RIGHT?

1 Yes, this is the original. The arcade machine boasted a huge five buttons. Converting all those moves onto the Amiga proved to be a real headache for Probe.
2 The one thing that makes *Mortal* on the SNES stand out from the others is the lack of blood. Apparently, Nintendo were worried about the violent overtones and told the coders to take the gore out.
3 Both the Mega Drive and Amiga versions were coded by Probe Software. As you can see, this Mega Drive version is little different from the Amiga one.
4 You guessed it, this is the jolly old Amiga version. And what a corker it is too. Retaining all the speed and playability of the original it will be a hit.

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RELEASE DATE:	END NOV
GENRE:	BEAT 'EM UP
TEAM:	PROBE
CONTROLS:	JOYSTICK, JOYPAD
NUMBER OF DISKS:	2
NUMBER OF PLAYERS:	2
HARD DISK INSTALLABLE:	NO
MEMORY:	1Mb

GRAPHICS	91%
SOUND	92%
LASTABILITY	93%
PLAYABILITY	95%

> Faster than Concorde. Slicker than oil. Bloodier than Reservoir Dogs.

OVERALL 93%

Shang Tsung is the ultimate opponent. Not only is he a hard fighter he can transform into any of the other fighters utilising all their moves.



LIU KANG

AGE: 24
HEIGHT: 5'10"
WEIGHT: 185lbs
ORIGIN: China
OCCUPATION: Shaolin Monk

Liu Kang is on a quest to regain the tournament title from the evil Goro. The alien dragon prince took the crown from another monk over 500 years ago. From then on the once honourable competition was plunged into an age of darkness and death. Kang's got some of the most useful specials, the best being a ball of energy and a flying spear kick which is so fast that virtually no one can avoid it.

His death move's pretty tough to do but it ends up with another head on the floor.

SUB ZERO

AGE: 32
HEIGHT: 6'2"
WEIGHT: 210lbs
ORIGIN: China
OCCUPATION: Assassin

With nothing more than the thrill of the kill as his reason for entering, Zero's one tricky fighter. He can slide in under your guard from a whole half screen away or, better still, fire a blast of freezing ice before taking a leisurely stroll over to the frozen competitor for a free hit.

He kills by taking hold of your head, giving it a little twist then pulling it right off complete with spinal column still attached. Yeuck!





Jon Sloan's always wanted something hot, oily and deadly in his hands. But, instead, he had to settle for a mouse and a copy of Virgin's new license.

CU AMIGA SCREEN STAR

What would you say if you were asked to publish a game based on a two-year old film? What if that film was Terminator 2? 'Where do I sign?' would be an appropriate response at this time. And that's exactly what Virgin said when offered the rights to the conversion of the coin op classic based on Arnie's blockbuster. Good job too, otherwise we'd have missed out one of the better blasters this side of Christmas.

The original arcade machine was an *Operation Wolf*-style shoot 'em up where you used a moulded plastic Uzi to take out thousands of marauding Terminators. This furiously addictive shooter had us all pumping fifty pees into the cabinet as fast as our sweaty hands could manage. It's no wonder then that Virgin snapped up the rights to the Amiga version. There have been and still are other variations on this theme, like *Space Gun* and *Zombie Killer*, but none have quite grasped the public's imagination as *T2* did. It's said that the Mega Drive version saved the Menacer light gun from a premature burial.



With Terminators coming at you from all angles, even Level One isn't easy. They shoot, throw bombs and bite your nose!



The only way to kill the T1000 is to shoot him in the head with your shotgun then pick up the grenade launcher for the final shot.

SAFE SUCCESS?

Despite all that success *T2* was never a safe license to have. After all, *Op. Wolf* and *Space Gun* both made it onto the Amiga and bombed.



The Terminators that appear in your face are the toughest. Aim for the head though and they'll soon shed oil.

So, it was with some surprise that I found Probe's conversion to be as playable and as addictive as I remembered the coin op to be. Everything is there from the wonderful 'Hasta la vista, baby!' sound samples to the wave after wave of relentless Terminator attacks. Your mouse-controlled gun works in the same manner as the plastic Uzi – one button for bullets the other for rockets. Hold your fire burst for too long and the gun will overheat, slowing down the rate of fire. Fortunately, there's still the chance

TERMINATOR

LEVEL BEST

For a game with a one dimensional theme there's plenty of variation between levels. In an effort to keep your interest perked and your trigger finger busy the attack waves come thick and fast, only letting up when you reach the end of level.

LEVEL ONE
– BATTLEFIELD 2029

Roaming a war torn future world destroying all Skynet's troops is your aim here. Take on Endoskeletons and flying Hunter Killers whilst trying not to hit the human fighters. The biggest target is the end of level boss – a Land Hunter Killer.



LEVEL TWO
– REBEL HIDEOUT

Oh no! The Terminators have infiltrated the base. Be careful to watch out for Arnie cyborgs and the deadly Orbs. Better be on your guard, as there are plenty of humans that need protecting as well.



LEVEL THREE
– THE JOURNEY TO SKYNET

John Connor has found out that Skynet plans to send a Terminator back to kill him. You've got to get to the transporter to follow it back. This level is the hardest as, as you face manic running Endoskeletons and hundreds of Hunter Killers .



to blow open crates and find useful add ons, like the Rapid Fire Coolant and Plasma Pulse Energiser which help keep your bullets spewing forth a hail of death at a rapid rate. The mouse controlled targeting is much easier than that plastic gun ever was – you can see where you're firing. However, it's on this point that *T2* shows a couple of flaws as the tar-



Not all the humans are out to get you. On some levels you must protect them at all costs. Accidentally kill one yourself and your score will drop dramatically. Here though it's kill, kill, KILL!

geting, whilst good, could do with some tweaking. My rockets had a habit of drifting off in a direction not exactly on par with where I was aiming. Also, it's hard to tell when you've been hit as, apart from taking a dangerous glance at your energy meter, it's registered only by few small blue blobs on screen. A whole separate colour would have worked a treat for that.

SOURCEY PROBE

That said, Probe's done an amazing job with the arcade source code. For a start the graphics, whilst obviously not perfect facsimiles, are miles better than the Mega Drive conversion. There's a feeling of depth to the screen which is enhanced by the three or four layers of parallax scrolling. Better yet, there's barely a shudder from it even when the screen's packed full of enemies, operating on all the different layers. The sound too evokes pleasant memories of hours (and money!) spent in the arcades. Despite spending a small fortune I never did make it past the fourth level! But with a selection of speed levels available on the conversion even complete novices should be able to get pretty far into the game before grinding to a halt. Fans and newcomers alike cannot fail to be gripped by T2 mania – play this game once and you'll be unable to put it away till you've come face to face with the T-1000. All in all it's a fantastic recreation of the arcade experience. CU

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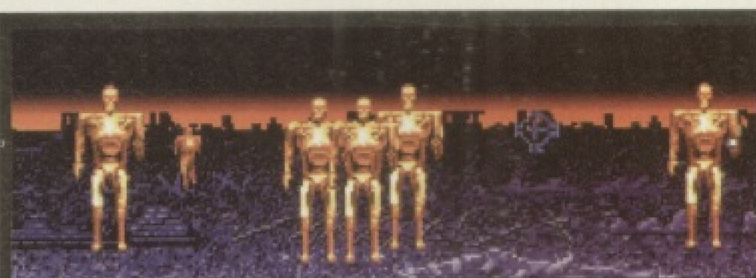
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RELEASE DATE:	END NOVEMBER
GENRE:	ARCADE
TEAM:	PROBE
CONTROLS:	JOYSTICK, MOUSE
NUMBER OF DISKS:	1
NUMBER OF PLAYERS:	2
HARD DISK INSTALLABLE:	NO
MEMORY:	1Mb

GRAPHICS	91%
SOUND	90%
LASTABILITY	88%
PLAYABILITY	90%

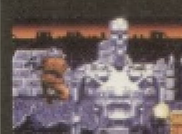
"A pixel perfect recreation of the fantastic arcade experience."

OVERALL 90%



KILLING MACHINES

Skynet's got a host of vicious killing machines just itching to spill your blood (or hydraulic fluid). To give you an edge over the competition here's a guide to the opponents you'll be facing.



ENDOSKELETONS: Before a Terminator gets all the sticky bits slapped on him he looks like this. These chromium killers are the most prolific enemies in the game. Appearing in two forms – silver and gold – the golden ones are the big brothers and take more shots to destroy.



T-800s: Arnie's clones pop up all over the shop but mainly in the second level. The rebel hideout has been infiltrated by Terminators so you're sent in to flush them out. Those closest to you gradually lose their flesh as your bullets hit home before exploding in a ball of metal, muscle and gristle.



HUNTER KILLERS: Massive armoured tank-like machines, these Skynet warriors are very deadly. They are capable of firing both missiles and machine guns from land and air based carriers – you'll need rockets if you're going to take them out pretty sharpish.



ORBS: These blighters drop from the sky in egg form and take a few seconds to hatch. The best policy is to blow them up before they hatch out of the eggs. Otherwise, they turn into nasty oval robots which hover about dangerously and are armed to the teeth.



SILVERFISH : These are weird snake-like automatons which are very sneaky and deadly in their attack – they crawl slowly forward before rearing up to suck the life out of you. Luckily they only appear in Skynet's compound. So, watch out for them when you get there.



HUMANS: Being a pretty thick bunch, the humans you meet all want to kill you despite the fact you're saving their race. From the heavily armed cops in Cyberdyne's offices to the acid-throwing scientists in the lab show no mercy and blast them all away.



T-1000 : The ultimate bad guy, this liquid metal monstrosity takes an age to kill. First stop him ramming the van Sarah and John are in, then freeze his frame with liquid nitrogen. The final confrontation sees you in the steel factory trying desperately to blast him backwards into the vat of molten lead.

2 ARCADE GAME

LEVEL FOUR
– SKYNET'S COMPOUND

Get to the compound and all hell will break loose. Skynet will throw everything it has at you to stop you from following the other Terminator. If you survive all that, you can go one on one with Skynet itself.



LEVEL FIVE
– CYBERDYNE'S OFFICES 1991

Back in the past now and Sarah Connor is planting bombs to blow up Cyberdyne's research offices. Protect her from the cops who thinks she's some kind of terrorist. Don't shoot them in the knees – that's just for the film. Total destruction is the word.



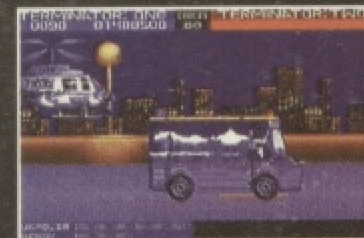
LEVEL SIX
– THE LAB

Young John Connor is after the T-800 arm and chip left behind from Skynet's first assassination attempt. Cover the fearless John and make sure to kill all the acid throwing scientists who stand in your way.



LEVEL SEVEN
– THE FINAL BATTLE

It's time to take on the ultimate enemy – the T-1000. He's after John and Sarah. Stop his attacks on their van before taking him on in the steel factory. Beating him will mean the future's in safe hands once more.







As pilot of the *Tornado*, you have more than enough instruments to keep your eyes on. If the main cockpit isn't enough...... then how about an entire screen of navigation controls?

TORNADO

It's been nearly three years in production and finally DI are ready for take off, but have they taken too long? Tony Dillon claims it's a walk in the park.

At first glance, a simulation based on the Panavia Tornado GR.4 and F3 might seem like a mighty strange idea. After all, they're hardly the high profile, all action combat monsters we're used to seeing from DI or Microprose. Even though it featured quite highly in the Allied attacks during the Gulf War, it doesn't bring to mind the same 'macho' imagery generally associated with combat flight. Just as well really, as this isn't that sort of game at all.

GONE MISSION

Like most simulations, it's mission based, with most of them based around ground attack – the *Tornado*'s primary function. Unlike Microprose titles, there are a predefined number of missions to actually take part in, as they are preset rather than the randomly generated ones we usually see. While this leads to more interesting and structured missions, it might seem limiting to some people. You have 17 'simulator' missions, where you practise your flying and combat skills, plus 12 training missions, there are a dozen or so preset combat missions for each of three zones and ten campaign missions for each of three zones, with over 100 missions in all! If you imagine that each mission takes about 20 minutes, there's over 35 hours of flying time here!

The simulation itself is unlike any other out there. The Tornado is a twin seater aircraft, so you have to divide your time between the pilot and navigation seats. Due to the nature of most missions, you spend a lot of time flying, with all the actual action crammed into a few seconds (fly to an airfield, bomb the runway and then fly back for example). A lot of the actual navigation is done for you, thanks to the fully comprehensive flight computer and autopilot. You can take over if you want, but most of the time you've got your hands full with all the other functions of the plane.

It might look really pretty, but cities like this are what slow the game right down.



GOING OVERBOARD

A lesson learned many years ago in the US was that to sell something small, you needed to make it weighty, which goes a long way to explaining why PC games come on thirteen disks when they could come on three. Open the back-breaking *Tornado* box and you'll find a huge (300-plus pages!) manual that even puts Microprose to shame, a selection of colour mission maps, various addendums and key references, and an interesting flyer advertising the *Tornado CD*. No, not a CD32 version, but an actual audio CD featuring, and I quote, "Music from & inspired by the TORNADO flight simulator experience." Not only that, but it features such great tracks as 'Storm' by Hollywood Nights and 'We Can Fly' by Fly!

BAD DOSE OF THE SHAKES

However, *Tornado* suffers from the judders like you wouldn't believe. The graphic engine is highly impressive on a fast PC, churning out over 2000 polygons at a time. On the old Amiga, though, it is almost completely unplayable at times. On a 4000/040, with all detail turned off and visibility at minimum, it runs smoothly. On a 1200, with most of the detail off, you are talking a frame every two seconds. You would have thought that at some point in the past two years, someone would have noticed. We hear the same old excuses of how the A1200 doesn't really have the power for this kind of engine. So what? Why not just cut down the engine?

Those of us who like to grab a Microprose sim, stick on the easiest possible level and then race around the landscape blasting everything in sight will find little to get excited about here.

This is a fully comprehensive, true simulator – impressively so at times – and only those ready to face the rigours of real combat flying should approach it. If excitement is what you're looking for, then look elsewhere. This is about as exciting as a bumper car simulator written in AMOS. If you want a true demonstration of a Tornado flight envelope, a hands-on experience of modern navigation or the chance to do some high brow low level attacks – something missed in most flight sims – then this might be the game for you.

All in all, the speed really lets things down, rendering the game almost unplayable in places, but other than that it's an absolutely superb simulation. CU

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RELEASE DATE:	OUT NOW
GENRE:	FLIGHT SIM
TEAM:	IN HOUSE
CONTROLS:	M, J, K
NUMBER OF DISKS:	2
NUMBER OF PLAYERS:	1
HARD DISK INSTALLABLE:	YES
MEMORY:	1Mb

GRAPHICS	41%
SOUND	31%
LASTABILITY	73%
PLAYABILITY	53%

"Superbly detailed simulation, but far too slow to be playable."

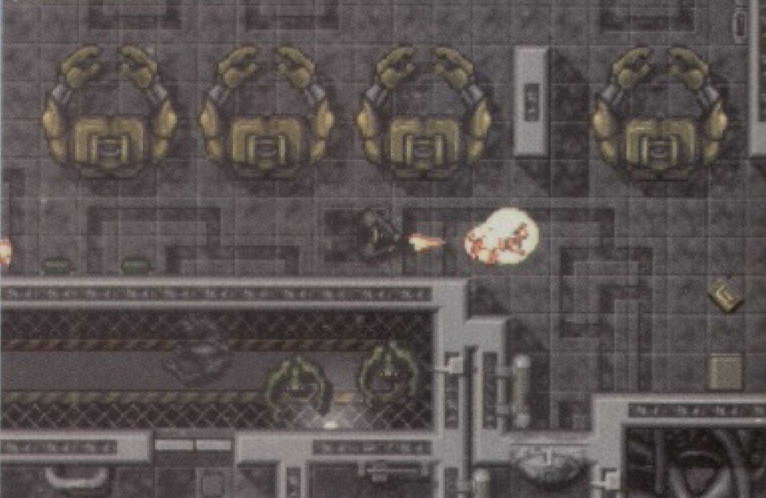
OVERALL 46%

Bug bashing has never been such fun. Jon Sloan goes on the rampage to check out Team 17's long awaited sequel.

ALIEN BREED 2

Paying homage in both title and style to three of the most memorable films of all time, Team 17 have returned with a bang. Or should that be a splatt? Fancy taking the role of a hardened space marine, dropped onto a hostile alien infested world? Well now's your chance.

As the sequel to one of the most successful games of '91, *Alien Breed II* is set nine years on and the Human Federation has done all right for itself. With six main races and hundreds of colonies, it's the most powerful alliance in the galaxy. But now an old threat has resurfaced to plague the peace. An emergency distress signal has been heard from Colony Alpha-Five and two agents have been sent to investigate. So, the concept is simple in the extreme – grab a gun, drop onto the infested colony and wipe the aliens out of existence. But this simple concept actually translates into a pretty involved reality.



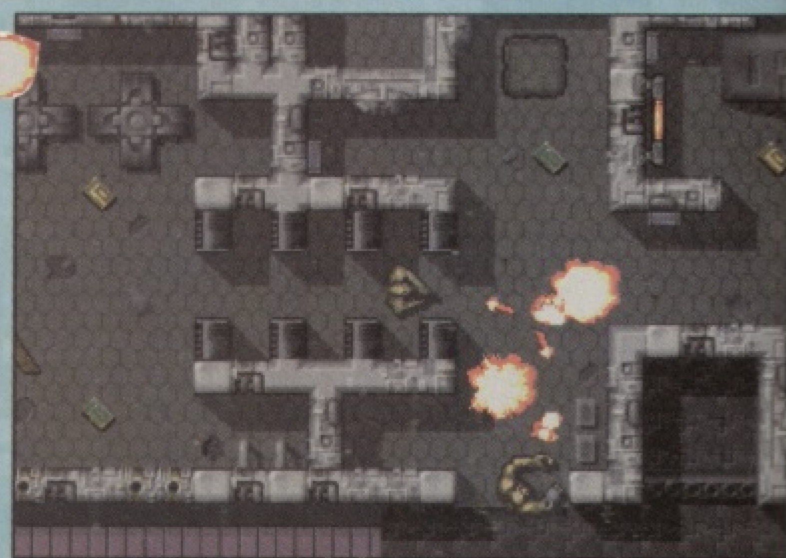
There's loads of power suits on level one, but there just background decoration. Shame you can't use them.

COMPLEX SPLIT

The game's split up into three main complexes – civilian, science and military. Each one is split further into four areas giving you over 12 levels of bug-burning mayhem. These complexes designate the degrees of difficulty you'll face. With each new level the odds stacked against you get higher. Apart from new breeds of alien nasties, there's loads of vicious traps and security devices blocking your way. Laser turrets will suddenly pop out of the nearest wall and laser protection fields only allow certain doors to be accessed from one direction. To make things a little easier you'll come across an occasional Intex 4000 computer console. Log onto one and you'll find all manner of goodies awaiting. If you've collected enough cash (left behind by the fleeing colonists) you'll get to choose from a host of new weapons (see panel on left-hand side of page), as well as keys, first aid kits, ammo charges and even extra lives. And believe



Take one small step through this door and the smell of burnt flesh will be yours. Laser doors can be accessed from only one direction.



The biggest gun around is this homing missile launcher. For easy alien annihilation stand round a corner and blast away.

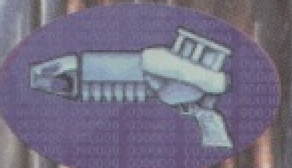
BIG HARD TOOLS

You'll get nowhere in this game without buying a decent weapon (ooh, err!). There are six to choose from, each with varying power levels. You've got a hard choice to make whether to buy the first upgrade you can afford or to hang on a bit for a really humungous alien splatter gun. Personally, I'd go for a medium grade power up then hold out for a huge one.

Anyway, here's a run down on what's available:



MACHINE GUN
Most characters start out with one of these. Useful all rounder if a bit on the puny side.



TRIPLE LASER
Getting tougher now, this three way shooter will take out most of the early nasties with only two hits.



REBOUNDERS
Great for clearing a crowded place. Stand at the top of a corridor and blast away for maximum effect.



HOMING MISSILES
The ultimate weapon, this gun fires rocket-propelled missiles at the aliens. Don't always rely on its targeting though.



FLAME THROWER
The perfect weapon for all the creepy crawlies you'll meet. It's a bit naff when it comes to nuking doors though.



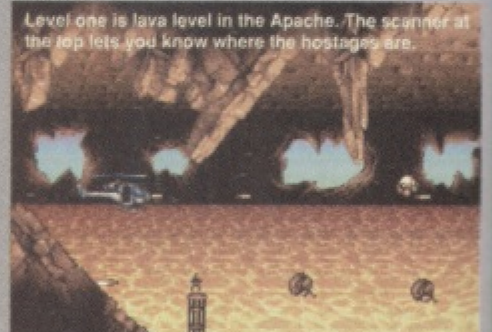
HAND GRENADE
Good weapon for taking out more than one alien with each shot. Pop a few into a room before you enter for a bit of breathing space.

APACHE

Don't worry, this panel's nothing to do with a crap rapper. Rather, for those lucky few that manage to grab an early release of *Alien Breed II* there's an extra treat inside. For a limited period *Apache* will be bundled with the game.

Those of you that remember *Choplifter* will recognise the playing style of *Apache*. The idea is to fly an armoured helicopter across a hostile landscape landing every now and then to rescue hostages. Carry the requisite number back to base and the level's clear.

It's not wonderful. The graphics are pretty poor and the controls dodgy. But the soundtrack is kicking and it'll keep you amused for a little while. Not the best cheapy that Team 17 have done but a great idea to stick it in with *ABII*. Well done!



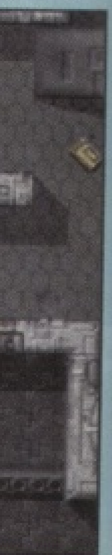
Level one is lava level in the Apache. The scanner at the top lets you know where the hostages are.

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charges
believe

this door
ill be yours.
from only







...ith enough cash you can buy a hand ...nner. This'll give you a display of your ...ediate area. Pretty useful in the maze-...e corridors.

...e you'll need them 'cos ABII is one tough game.

From the outset, dropped ...tside the base having ...negotiate the ...mote security choppers, *ABII* is out to get you. The choppers strafe the ground, drop bombs and swoop so low that one touch means death. That wouldn't be so bad if they didn't appear out of nowhere or your sprite didn't run like he was in quicksand – but they do and he does. So, it's very easy to lose a life before you even enter the base. And from then on it gets tougher!

DIRTY BREEDERS

The aliens themselves are a mixed bunch from the simple grabbers on level one to the mutant tortoise things later. And they only have one thing on their minds – to eat your face. These aliens are no dummies either. In the nine years you've been away they've become more intelligent, faster and some even come armed with their own projectile weapons. So, it's vital not to waste your ammo 'cos they keep on coming, reappearing even after you've cleared a room.

ABII is extremely well constructed. The AGA graphics breathe life, they're just so detailed. What's more, when you change complexes the graphic sets undergo subtle changes giving you the feeling that they've been completely redesigned yet still retaining a sense of familiarity. The sound too is something to behold. The first time you hear the great voice samples and haunting background tune you're sure to feel a little tingle down your spine.

FAULTY DRIVE?

That's not to say that *ABII* is without its faults. For one thing the game's too tough. Although there's a choice to two difficulty levels there's no perceptual difference between them. Another level would have been useful. Also, on certain levels you're given a specific mission to complete. Once done, the level begins to self destruct. Unfortunately is you fail to make it to the turbo lift in time it's game over – no matter how many lives you have left. What's wrong with starting you on the same level again minus one life?

Niggles aside, *ABII* is one fine game. If you own an AGA machine you'd be a fool to miss out on this. Hard drive owners are in for a treat too. Contact Team 17 and they'll be able to supply, at a price, a hard drive install program. What more could you ask for? How about a version for standard machines? The Team aren't going to leave you out – we'll have a version for review next issue. Hold tight till then. CU



Some levels are simply a race against the clock. When you start this one the self destruct is immediately initiated leaving you with a mad dash to the next deck lift.

TEAM 17 £29.99

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RELEASE DATE:	OUT NOW
GENRE:	ARCADE
TEAM:	IN HOUSE
CONTROLS:	JOYSTICK
NUMBER OF DISKS:	3
NUMBER OF PLAYERS:	2
HARD DISK INSTALLABLE:	NO
MEMORY:	2Mb

GRAPHICS	80%
SOUND	86%
LASTABILITY	84%
PLAYABILITY	82%

" *Slick fun, but also very, very tough.* "

OVERALL 83%



Dogs come in all shapes and sizes in this game – take that huge bassett hound for example!

WONDERDOG

CORE £25.99



Core Design have always had a hell of a reputation when it comes to platform games, what with past successes in the shape of *Chuck Rock* and *Premiere*. That goes some way to explaining why I was so quick to leap up and shout 'me, me, me!' when their latest came in for review. Five seconds into the game, and I was beginning to wish I had stayed in my seat with my mouth closed. *Wonderdog* is not a particularly fine example of what Core's boys and girls are capable of, and that's a tactful way of putting it. Believe me, there's nothing wonderful about this dog!

The plot is the same old guff as before, only this time littered with doggie puns. General Von Ruffbone is 'sweeping through the galaxy, achieving total galactic domination in his wake'. You are a small dog that has been injected with 'Wonder Serum' and sent to stop Ruffbone's mighty army. This all takes place over seven incredibly similar levels including settings such as an abandoned city, the surface of the moon and Bunny Meadow.

The moment you look at *Wonderdog*, you can see how it was put together. The same scrolling and sprite animation routines from *Chuck Rock* have been stuck back together with some less than impressive sprites and some extremely grating sound effects, including a sample of Homer Simpson's 'Doh!'. It moves around at a heck of a speed, but due to the fact that many of the opposing sprites are quite small plus the inertia imposed on the main character the game is a bit of a dog to play. To top it all off, there are some invisible platforms and secret rooms that are obviously intended to enhance the game, but end up being ignored as you hunt frantically for a fun part of the game.

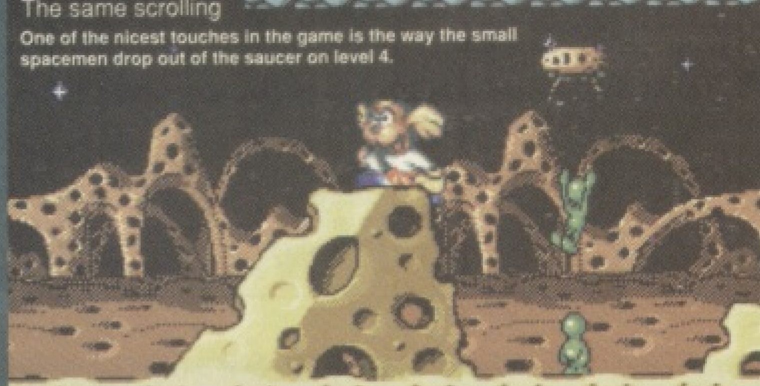
When I ran this review through my Macintosh spelling checker, it tried to replace the title with the word 'Underdog'. I think it had the right idea. **31%**

Tony Dillon

Below: Where is he? Behind the fence leaping over a motorbike – honest!



One of the nicest touches in the game is the way the small spacemen drop out of the saucer on level 4.



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A fully functioning settlement. Well, its almost working...



Much of the game is hierarchical, such as this screen which lets you select the most important items to produce.



THE SETTLERS

Tony Dillon throws theology to one side as Blue Byte proves that it isn't only God that has a hard time.

The most important point to make about *The Settlers* is that it is not a God game. It might look like one, and at times play like one, but there's considerably more depth to it than *Populous*. By the same stroke, it isn't *Sim City*. Again, there are many facets of it that might be akin to the Maxis classic, but there are a hundred more that aren't. In short, rather than being totally original, this is a blend of quite a few game styles. Why the high mark? Because it does the job so well.

In theory, the job in hand is quite a complex one. From a small castle, you have to build a complete, fully-functioning township that is self sufficient enough to survive, but strong enough to withstand the constant threat of enemy attack. Just in case you are wondering, to help you build your fully-functioning town you have access to a wealth of natural resources, with the ability to exploit them to the full. For example, if you are located near a large wood, it makes sense to train up a woodcutter, build a sawmill and start building things with wood. Similarly, mountains can be mined for all sorts of ores and treasures, if you can get the right people on the case. These are just some of the things you need to consider when selecting the part of the map you want to position your base. After that, things get really complicated.

As if that wasn't enough to keep you going, at any one time there are at least two other villages vying for the land and resources, and they're happy to stoop to any level to take the fruits of your hard work. To begin with the villages are quite far apart and relatively small, but as the game progresses and the villages grow, they begin to encroach upon each other's boundaries, and so turn to war.

As battles go, war is quite a civilised thing in *The Settlers*. There's none of this 'entire population races to the centre of the map and has a right old scrap' scenario that appears in games like *Populous*. Instead, your knights head out to a specified building in enemy territory, where they challenge an opposing knight. There, they fight one on one until the battle is won and the land handed over to the victor.

There are so many variations on the basic game that you will wonder if you could ever play the same game twice. After all, there are four main types of game (training, missions, one player or split screen two player), which ar[e] then broken down into: the type o[f] opposition you can face, the size of your settlement and even the size of the fractally-generated map. So, you'd be extremely har[d] pressed to replicate a particular situation again.

The whole game is mouse controlled, using a combination of icons, information panels an[d] a variety of different 'clicks' to keep everything going. A daun[t]ing system to use initially, but quite natural once you get the hang of it.

JOB CENTRE



Unlike games like *Populous*, where the entire population seem to wander about aimlessly, most of the Settlers have a job. A young settler has 25 different careers to choose from, all equally important in their own right. A carrier, for example, does little more than ferry goods from one place to another, whereas a geologist will head into the mountains and search the rocks for the best places to mine. They all have their own distinct image and animation, with characters like The Smith and The Fisherman being a real joy to watch!



Not even the mountains can stop this tribe from expanding. Remember, if you can't climb over it, then dig through it!

In two-player mode, a second mouse is needed. How many Amiga owners have two mice? I'm not sure, but I can see how a joystick would put someone at a real disadvantage.

The game's biggest charm has to be its presentation. Very rarely do you come across a game that is this much fun to watch. There are animations for everything in the game, with full sound effects to tie in with them ranging from the rustling of the trees to a woodcutter stripping a tree after it has been felled.

At times there is just so much going on on-screen that you just have to sit back and watch for a minute or two. Although most of the sprites are tiny, there is so much character stuffed into them that you just can't help laughing. After a few minutes of play, you realise that a lot of the time you can tell what's happening simply by listening. If you can hear a hammer striking an anvil, then a quick look in the Smith's window shows you that tools are being produced.

Of course, effects like birds singing in the trees are purely cosmetic, but these effects do give the game that certain 'stop and have a look' appeal that causes so much work to be delayed in the office.

Intelligent sounds and graphics that actually mean something are what sets this game apart from so many in its field. And that's even before you start to play it!

The Settlers is a superb game, and I would need most of this magazine to explain it fully. It might not seem like the kind of game that can hook you immediately, but it's only after the first hour of play that you realise just how addictive it is.

Strategists will love the challenge, everyone else will love the game. Who said Germans don't have a sense of humour?

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RELEASE DATE:	NOVEMBER
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TEAM:	IN HOUSE
CONTROLS:	MOUSE
NUMBER OF DISKS:	2
NUMBER OF PLAYERS:	2
HARD DISK INSTALLABLE:	YES
MEMORY:	1Mb

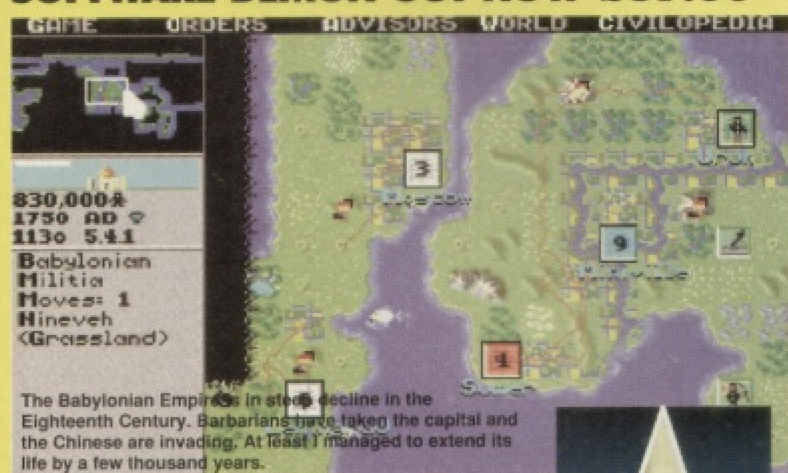
GRAPHICS	92%
SOUND	90%
LASTABILITY	89%
PLAYABILITY	92%

"Very challenging, very addictive and great fun just to watch. What a great game!"

OVERALL 90%

CIVILISATION AGA

SOFTWARE DEMON OUT NOW £39.00



The Babylonian Empire's in steep decline in the Eighteenth Century. Barbarians have taken the capital and the Chinese are invading. At least I managed to extend its life by a few thousand years.

It's been called 'The God Game to End All God Games' (by me at least) and 'The Greatest Thing Since Sliced Bread' (by my Uncle Bill, but what does he know?). But whatever name it goes under there's no doubt that *Civilisation* is one helluva game.

It's been around for a good number of years now (two to be precise) so you should know what it's about. For those that don't, the box's blurb sums it up quite well – 'Build an empire to stand the test of time'. In other words, start off with a small tribe so many thousands of years before Christ and help them develop into the Master Race (sounds like the blueprint Adolf was working to). In the meantime you'll have to fight off or make alliances with all the other computer-controlled peoples who are out to do the same thing. It's a simple concept that's been superbly executed.



SCREEN STAR

For some reason I never really got down to a heavy gaming session with it till I reviewed this version. But, when I did, I soon found the hours ticking pleasurably by.

This AGA version bolts on extra colours and graphic effects in the form of, amongst others, waves lapping on the shore.

Overall, the look and feel of the game is dramatically improved, though it's debatable whether, in this instance, it adds anything to your enjoyment. Having been ported directly from the PC it's carried over a number of glitches like the exceedingly frustrating mouse control which seems to need a very heavy and prolonged click to bring up any of the menus.

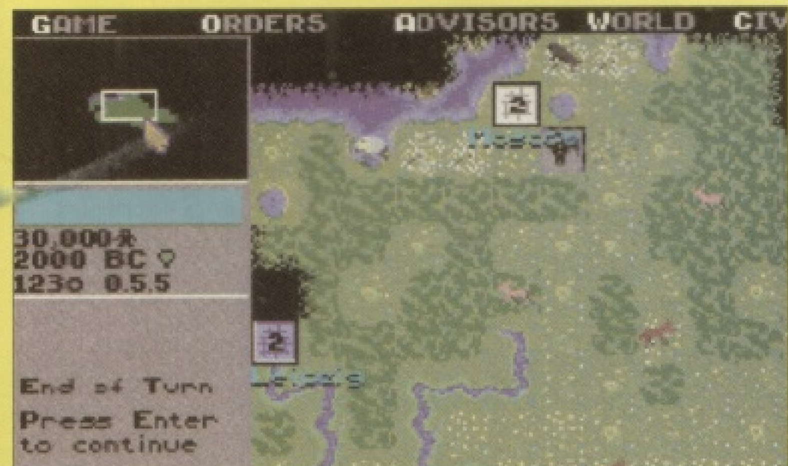
At £39 it's a bit overpriced but if you already own a copy, Software Demon will upgrade it for £19. A great game, but a bit too much to pay for the improvement. **86%**

Jon Sloan

The city of Uruk is doing pretty good. Lots of cash and plenty of food in reserve. Could do with a few hundred soldiers though to top up the defences.

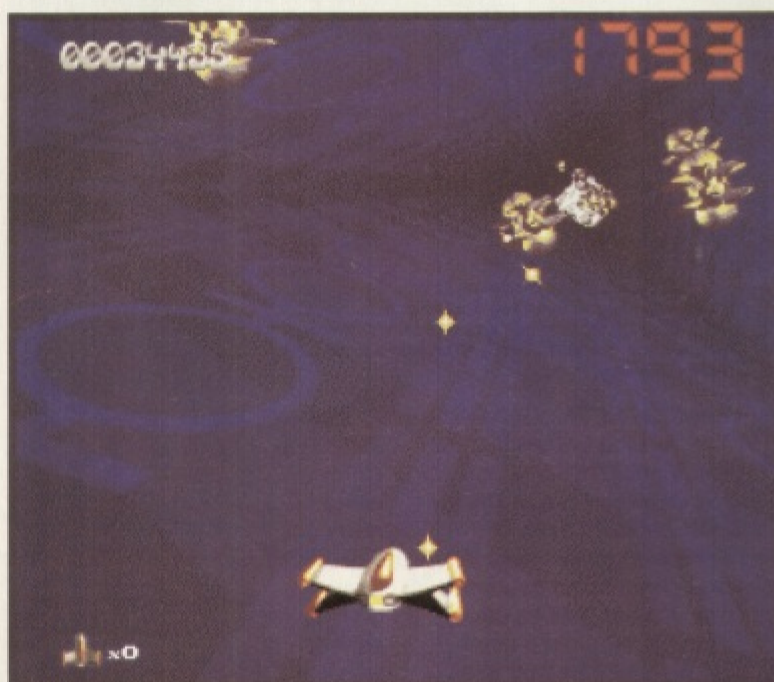


Below: No, your eyes aren't deceiving you. This is the standard non-AGA version. Compare it to the other shot to spot the difference.



STARDUST

DAZE MARKETING
OUT NOW £16.99



Warp in between levels via a tunnel like this one. It's full of meteorites and mines which must be avoided or blasted.

I was always a fan of *Asteroids*. In terms of popularity it was the *Streetfighter* of its day. The Amiga has had its own version for some time but there's been little in the way of innovation since that version. Until now. Finnish coders, Bloodhouse, have come along with *Stardust*. This super slick game takes the *Asteroids* concept, bolts on a few designer accessories and warps it into the '90s.

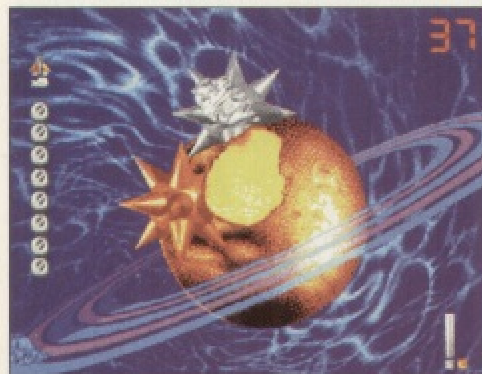
Set over 36 levels of rock blasting mayhem there's much more to *Stardust* than first meets the eye. For a start, the enemy isn't just millions of tons of meteorite hurtling aimlessly through space. There are spaceships that drop mines, huge rotating spiky ball things, a mercurial blob that morphs into a huge head (à la Terminator 2) and a DNA snake that grows with each passing second. What's worse they don't just float about a bit, they come after you! Fortunately, your intergalactic space destroyer is equipped with a limited shield and the ability to bolt on extra weapons and stuff that get left behind by the odd exploding enemy. These add a touch of thought to the mindless blasting as certain weapons work better against specific opponents. In addition, you warp between levels via a tunnel sequence that must be one of the fastest, smoothest sub-games this side of infinity. This section is so realistic I found myself ducking as the asteroids came flying out of the screen.

Utilising fully ray-traced 3D graphics and pushing the Amiga's palette to its limit, *Stardust* is a dream to look at. There's no special A1200 version basically because their doesn't need to one – it already looks like it was coded for the 1200. The 3D sprites are incredibly vivid and have a texture mapped feel to them. Imagine that the 3D shapes in your favourite rave demo have been dumped into an incredibly fast and smooth game and you'll get some idea of what they look like. But don't take my word for it – go and see a version playing.

Perhaps the only real criticism is that it could have done with a few difficulty levels to keep you going for a while. That aside, it's amazing that a game as playable as this could have appeared with so little advance publicity. Grab a copy now.

Jon Sloan

81%



Not all enemies are rock. These satellites home in on your ship then drop mines in its vicinity. Blast them quickly or they explode in a shower of destructive shrapnel.



These lizards are the first tough opponents you'll face. Their trademark is a diving roll which covers so much ground it's best to stick one on them before they try it.

BRUTAL SPORTS-FOOTBALL

MILLENNIUM OUT NOW £25.99

Take *John Madden*, add a dash of *Speedball 2* and a little Man Utd. for viewpoint, bake under a slow oven for one year and voila you've got the perfect recipe for *Brutal Sports Football*. And it tastes pretty good too. This fast-paced football/beat 'em up cross is an absorbing game designed to be the first in a series of tongue-in-cheek looks at professional sports.

Set in some futuristic world, *BS Football* puts you in control of a team of genetically-engineered mutants at the bottom of the fourth division. Your aim is to rise through the ranks by beating some of the strangest teams ever to grace a football pitch. As well as other humanoid teams, there are ones composed entirely of lizard creatures, others of rhinos and yet more with even weirder beasts, all with their own unique techniques and style of play.

The gameplay is of the American kind with players picking up and running with the ball into a sort of English goal/endzone. In theory winning is easy, either score a load of goals or rip off so many of your opponent's heads that they can't carry on. In this perverse game anything goes – punches, kicks and stomps – there's no illegal moves. To make matters worse (or better) the pitch is littered with pick-ups that allow you to run faster, smash opponents with a shield, stab them with swords or use a special freeze ray that turns them into blocks of ice. As for injury time, well it means just that – cause more injury and you'll get more points.

The gameplay's fun, the graphics huge and refreshingly chunky and the sound well crafted. Despite some exceedingly dodgy scrolling, especially in the locker room, *BS Football* is a well-coded effort. It's great playing your way through the leagues and kicking the crap out of all and sundry. Most fun when played against a friend. Buy buy buy.

Jon Sloan

79%

One of my guys is getting a bit of stick from the other team at the moment. Perhaps they're annoyed that I've just decapitated two of their players.







Amiga, Sept '93.

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SECOND SAMURAI

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Games, unlike children, deserve lots of love and affection. In fact, the more you give them the better they become. Vivid Image have spent the last two years lavishing *Second Samurai* with as much care as they could manage. It shows. This game's got more polish than a jumbo size can of Mr Sheen.

Second Samurai picks up where *First Samurai* left off. Our lone Samurai is continuing his pursuit, through time, of a demon that killed his master. After vanquishing the horny beast at the end of the first game, Sam took a bit too long finishing him off. Tricky things these demons, more lives than a cat and with a habit of turning up when you least expect them. Anyway, this one's fled back to Ancient Japan so Sam's got to follow him back there to wreak his revenge. The problem is that the demon's left 10 levels of henchmen-infested platforms behind to slow old Sam down.

To make matters worse, he starts the game with nothing more than his hands and feet to defend himself with. Luckily, some careless geezer has left various weapons scattered around, like a huge sword, throwing daggers and even a special magic bomb. Sam'll need all the help he can get 'cos the demon's henchmen are a tough bunch. There are snakes, beetles, robots, ninjas and other samurai to contend with.

One major fault in *First Samurai*'s game design was the vastness of the levels. Players often ended up wandering around searching aimlessly for the exit. That error has been ably corrected here, though, with each level split up into small manageable chunks; the ends of which are punctuated by a tough mini-boss creature. In addition, the more of every level you explore, the more of the end of game sequence you see and boy is there a lot to to it!

This element is only one of many that give *Second Samurai* a console feel. With three-layer parallax scrolling, bags of colour and unique graphic sets for each of the three worlds you feel you're playing a 16Mb console cartridge.

So much has been stuffed into *Second Samurai* that it would be hard to do it real justice in any review. Vivid Image have clearly thought long and hard about all the little things that make players warm to a product. For instance, you can alter the sound level of the in-game tune whilst playing without affecting the spot sound effects!

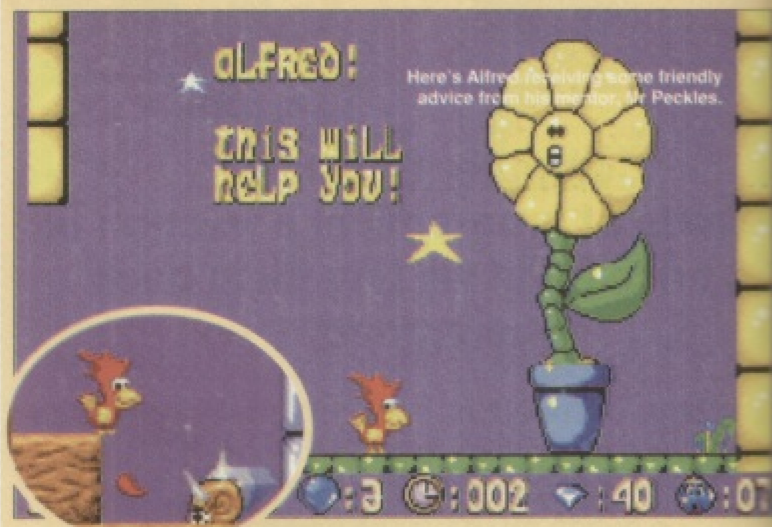
There's plenty of sub-games, with many pastiches on old classics like *Asteroids*. There's even a section where Sam straps on a rocket pack and the game turns into a shoot 'em up. The icing on the cake is that it all hangs together so cleanly with only a few slight flaws showing through.

Second Samurai is an Amiga games classic. Do yourself a favour and rush out and buy a copy now.

Jon Sloan

83%


On the later levels the opponents take on human form. This ninja's kick is straight from an old Sho Kosugi poster.



Here's Alfred receiving some friendly advice from his mentor, Mr Peckles.

ALFRED CHICKEN

MINDSCAPE OUT NOW £25.99

There's something about the mind of a platform game designer that's warped. After all, what sane person could possibly come up with a plot like *Alfred Chicken*. The Meka Chickens have come from outer space and egg-napped Billy and his brothers. They've even taken the fluffy Floella. You, under the guidance of Mr. Peckles the sunflower, must go and rescue them. Weird.

Of course, it's a platform game, and like so many other Amiga platformers, it taps its head in the direction of Mario/Sonic and anything else that has been remotely successful on console. Although platform games have come along in leaps and bounds, this game, however, adds nothing new to the genre. Sure, it's playable enough, but name a recent platform game that wasn't?

Each level has a different theme, as usual, but your aim is always the same – to rescue Billy and the gang. To get through the levels you must release the balloons that are connected to air supplies. When all the balloons have been let go, the last one carries you off screen to Mr Peckles' lab in the sky. Hold on, this is getting silly again!

If you think the plot is weird, then why not take a look at some of your opposition: snails that grow spikes, or have vertical firing cannons mounted on their backs, and whales with high-powered machine guns. There are even a few neurotic bombs to contend with! These, though, can never match up to the might of the Meka-Chickens. After every three levels, you are blasted into space


Alfred, Alfred, he's our... erm chicken.

and placed in your Meka Buster ship for a manic shoot out against the huge and badly-drawn super enemy. This is probably the most active part of the game.

Alfred Chicken is, as I've said, a playable platformer, but it does suffer from a couple of problems. The biggest has to be your mode of attack. Like all platform titles, you kill the bad guys by jumping on them. However, you have to hit them head first, by leaping into the air, and then diving onto them. If you miss, they can just walk into you, killing you instantly. Needless to say, this can be very frustrating.

Also, Alfred doesn't move very quickly. Although he is beautifully animated and designed to the point where you just want to pick him up and cuddle him, he just can't get out of the way of the faster moving enemies. For example, if you jump and discover that something is bearing down on you, you can rarely move him out of the way in time, so you are killed on contact and returned (annoyingly) to the point of the last-released balloon. *Alfred Chicken* had all the makings of a classic platform game, but sadly a few niggles have left the gameplay slightly irritating.

Tony Dillon

70%

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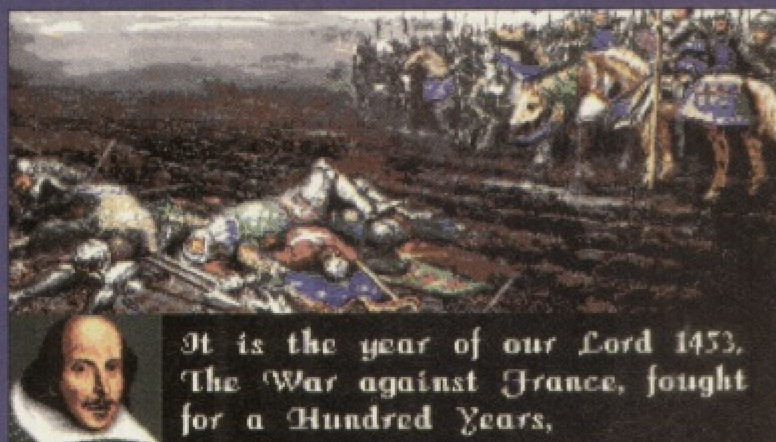
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When two tribes go to war – God I'm sick of that song, I hear it every morning on the radio, on the TV, now it's even creeping in to my captions, is there no refuge?

As Tony Horgan said, 'They're a crap band, aren't they?'. That may be the case, but *Kingmaker* is also the latest tabletop RPG to computer game conversion from US Gold, and boy does it smell.

I like tabletop war games, and though I've never played this one, I've been assured that it's quite fun to play. All I can say is that it has to be better than this.

As the title suggests, all you need to do is raise a king from your army and get him on the throne. While you are doing this, up to five other factions are also trying their luck, and before you know it bloody war breaks out all over the land and the whole game starts to look like a poor man's *Defender Of The Crown*.

Visually, the thing is flat and lifeless, and the full map of the UK just doesn't look right. I don't remember seeing mountains in Cornwall, and isn't there supposed to be a river in the south east of England?

Poorly designed and scrappily laid out *KingMaker* looks like it was thrown together – a complete disappointment.

Tony Dillon

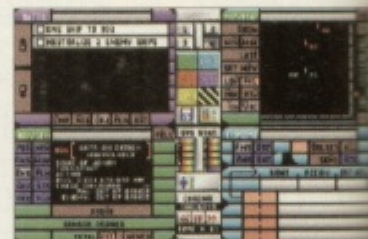
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RULES OF ENGAGEMENT 2

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Why do companies believe that strategy games must be as graphically exciting as watching paint dry? I do like pitting my wits against the computer once in a while, but why should I have to put up with poor-quality static images? When will publishers realise that you can't just port a game across from the PC and make no real code changes to it. This space trade/war game could have been a colourful and tuneful affair if only some thought had been given to the Amiga's specific chip set. Instead, what we have is a flat, lifeless game with no sound apart from the occasional effect ripped straight out of Star Trek.

The strategy elements are well thought out and the logic impeccable. The main display is divided into quarters and you can have four out of 20 screens open at once. There's everything a budding space commander could want from navigation maps, tactical firing and defence consoles to communications panels and docking layouts. There's even a choice of enemies to battle, each with their own way of approaching conflict. And, when you've completed all the set campaigns you can design your own, complete with new space ships and races.



Check out the bottom right window; this is your ship's defence screen and the lack of forward screens means you're in trouble.

If you can forgive the poor-quality graphics and virtually non-existent sound effects this game is quite good fun. If you can fathom the huge manual (set aside at least a day to get through it!) and work out what all the buttons do, you might manage to find a playable game underneath. That said, it's over priced – the Amiga market just won't stand for the same prices that PC owners have been forced to stomach. Play before you buy.

Jon Sloan

54%

WHEN TWO WORLDS WAR

IMPRESSIONS OUT NOW £34.99

Utopia in everything but name but without the fun. Design your own world, build labs, food farms and power stations then tanks, subs and spaceships. Once you've built a sizable army send it off to the other planet for some good old fashioned all-out war. That's about it really.

In theory it should be as good a game as *Utopia* ever was but with added strategy. There's much more scope for military planning here. For instance, you can plan patrol routes for the defensive forces and set up complex attack waves.

Also, the game starts with the other planet completely unexplored, so you don't know how it concentrates its resources or what weapons are in development. This adds some spice as you send off scout ships to explore the surface.

Somewhere along the way though, this fun theory became a stark, slow, colourless reality. *W2WW* runs so slowly it's in danger of being overtaken by the Victorian era. Even the pop up menus on the A1200 specific version don't so much pop up as take a peek out from under the duvet then decide to have another five minutes in bed. Don't bother with this game unless you're a serious strategy addict.

Jon Sloan

45%

All your world's defenses are controlled from this screen. The large map to the left is a close up of the world map on the right. The plane in the centre is the first of your military unit off the production line.



AIR FORCE COMMANDER

IMPRESSIONS OUT NOW £29.99

I'm getting pretty sick of reviewing strategy games that have all the graphic sophistication of a three-year-old's first attempts to paint. Here's another fine example of a great concept that's been let down by the graphic artist.

Air Force Commander puts you in control of a country's air defenses and related resources. It's up to you to plan, direct and execute a strategy for their defence and, if the scenario demands it, take the air war to the enemy. To win you'll need to deploy squadrons at the right base, set up defensive patrols and carry out bombing runs against the enemy's airfields and supply depots. The key to all of this is radar. You'll start each scenario with a number of static and mobile ground radar units, plus one or two AWACs planes. Protect them at all costs 'cos once they're gone you cannot replace them or carry out any air manoeuvres. Once that happens you've lost.



The middle east seems to figure large in many war games these days. Here we have Qatar and the United Arab Emirates falling out over disputed oil rights.

The gameplay is simple and the control system intuitive. And, as the whole thing's played in real time, you do feel a lot of pressure to get things done quickly. Just like the real thing I guess. However, if I wasn't reviewing it I wouldn't touch this game. The sound effects are, again, almost non-existent save for the odd explosion. As for the graphics, well a flat 2D map isn't exactly all that much fun to look at is it? Where are the fly by shots and missile cameras like the real air force had in the Gulf War? What about a little dogfighting action when planes meet instead of, like now, one flying into the other and an explosion. It's really sad to think that so much imagination has gone into the overall design and so little into its execution.

Jon Sloan

48%

Adventure

Vampyra is here again to help with all your adventuring problems with her own brand of humour – and it's all done in the best possible taste!


VAMP

LEGEND

I know the game *Legend* has been out for a while now, but having only recently bought my Amiga I am a newcomer, and this is my first RPG.

Having reached the first level of Darktower, I have come to a room with a moat in it and the only path across is blocked by rising and falling sticks. On the other side is a column with a lever on it, a green chest, a column with an inscription, a green switch and a table. Behind the table is a square with a healing rune on it. I have tried everything, but to no avail.

D. Baines, Cleveland.

You're in luck honey, because only someone who knows how to handle men can solve this room – need I say more? The problem involves the teleport pad and lots of men coming and going very quickly. At times like this a girl needs to keep her wits about her, or things could get out of hand...

Place the Assassin on the teleport. Put the Beserker on one side of him, with the Troubadour on the other. Make the Berserker face toward the pad by trying to move him onto it. Now do the same for the Troubadour. Make the Runemaster cast a Missile Teleport spell at the Rune which will transport the Assassin. Move the Berserker as fast as you can onto the teleport pad before the Assassin can be returned to it. Make the Assassin pull the lever on the pillar and this will make a bridge appear across the moat. You can now repeat the process to move the rest of those hunky males across the room using the four teleport pads.

Timing is very important and it may take you a little while to perfect your technique, but the training will be worth it in the end. I can promise you, there is nothing better than being with someone who knows how to take his time... [strains of, 'I wanna lover with a slow hand...']

OPERATION STEALTH

As adventure gamers go I consider myself pretty good, having completed numerous games such as *Monkey Island II* without any help. However, I have recently purchased *Operation Stealth* and I find myself unable to progress. I am stuck in the office just after the maze. I think I've examined every object in the room, including the books in the library, but inspiration fails me.

Ben Parry, Oxon.

Don't you know what a right arm is for? No dear, I wasn't referring to that, I was referring to the statue in the office. If you operate the right arm, a secret will be revealed. Look, just pull it and then see what happens next.

WAXWORKS

I'm not known for begging, but just this once I thought I'd try it. Just to see what it's like. I'm stuck in *Waxworks* . Although I'd like to get within snapping distance of the nasty piece of work who lays wire traps across the corridors, my real problem is on Level 5 of the Egyptian Pyramid. I find myself in a double room with murals all over the walls, some of which hide hollow spaces beyond. Unfortunately I can't get past these walls! I've tried tapping, pushing, every bit of my inventory and screaming, but nothing works. Please put a gentle gamer out of his misery before I attack something.

Phil Brine, Nottingham.

Don't you think it's time you stopped pussy-footing around and got serious?

Why don't you take out your sword and hack them? Examine the murals to find the one with the snakes on it. Smash through the plaster and you'll discover the secret room. The room does contain something useful, but it also contains snakes. Snakes are slippery creatures with no balls, (a bit like our esteemed editor). .

However, you can deal with the nasty rotten snakes by dropping the bottle of oil you found on the first level of the pyramid.

PLAN 9 FROM OUTER SPACE

Please can you tell me what to do in the Mall in *Plan 9 from Outer Space*, because I never have enough money to buy a travel ticket and it's driving me insane.

Jane McDonald, Brighton.

'When the going gets tough, the tough go shopping,' and where better to go shopping than in a mall. I do all my shopping in those all-night Malls, as it means I don't have to go out into the nasty sunlight – it plays hell with my complexion.

The one thing I never understand is why do they have Christmas when the shops are so crowded?

If you haven't got any money why not use 'plastic'? You can find one of those dinky cards in Bela's house on Vlad the Impaler street. Simply push one of the wall trophies in his study to find this invaluable item.

BARDS TALE 2

Please could you tell me how to get the Sword of Zar in the Maze of Dread?

James Dees, Hull.

The Maze of Dread! Doesn't it sound scary? Actually, I found that the guys who live there are quite sweet, in fact, they often come over to my place for a bite. (But it can be havoc trying to get rid of the teeth-marks afterwards.) Back to the game – to gain the macho sword you must

AGONY CORNER.

If you've got a problem of a more personal nature, you can get expert advice by writing to Vampyra's 'Agony Corner'.

Q. I was brought up rather strictly, and I believe you should have the lights out when you are making love. What do you think?

A. Well, as Freud said when two people are making love in a room there are actually four people present – the other two are the ones that both partners are fantasising about. So, what about them, perhaps they'd like the light on? Anyhow, it can be just as interesting having sex with the lights out. It's just like eating an apple in the dark really. If it tastes bad, just turn it round and try the other side!

Q. I read that doing 'it' can make you go blind. Is it true? I'd hate not to be able to read CU Amiga when I'm older.

A. Hmmm, when you say that you'd like to be able to read CU when you get older does this means that you are a young nubile virile thing, yes? Perhaps you need someone to 'show you the ropes' so you can ease off on the five-fingered widow.

Anyway, you shouldn't believe that old wives' tale, but perhaps to be on the safe side you should ration yourself to the point where you just need glasses.

Q. Is sex dirty?

A. Yes, if it's done properly!

answer the jester's riddle, but you must give it to him backwards. (Don't knock it 'til you've tried it.) On level one of the maze you were told that the riddler seeks a word, but he'll only understand it backwards – guess you don't have much of a long term memory. You should have also noted that the colour red was not found in any of the messages of level one and that's why the answer you seek is DER.

MONKEY ISLAND II

I am having major problems with *Monkey Island II*, for although I have won the spitting competition, I cannot find find the correct coordinates for the masthead. I know I need the mirror from the store on Booty Island, but I don't know how to get it.

Barry Glover, Port Glasgow.

So you are a champion spitter who likes to look at himself in the mirror. Boy, I bet you are popular with the girls.

Of course, it's the parrot who is your real problem for that silly bird loves himself as well. If only he had a picture of a beautiful page three parrot to look at then he wouldn't need the mirror. Can't you find something with a picture of a parrot on it which you could hang next to the silly bird, then you could take the mirror?

ULTIMA VI

I have liberated all of the Shrines in this excellent game, except for the Shrine of Spirituality. I have obtained the rune and the mantra, but I can't reach the shrine itself. I understand that the shrine can only be reached through a moongate, but I haven't done this owing to a lack of an appropriate spell.

Jonathon Gray, Knutsford.

For those poor souls who haven't made it this far perhaps we should tell them that to find the rune they should travel to Skara Brae and take a peep at Marney's chest. Pretty impressive eh? [Well, it's not a patch on mine of course, but a girl can but try.] Once you've done that take a peep inside her wooden chest and you'll find the rune. There are two ways to reach the shrine. You can either wait for two full moons to appear and then use the moongate, or you can use the Orb of Moons which you received at the start of the game. To get there by means of the orb simply – USE Orb. A set of cross hairs will appear which are targeted on yourself. Move the aiming point down one to the bottom of the screen, then move them two spaces left and press enter. If you get it right a red gate will appear. Once you get to the shrine use the rune and the mantra OM, and then you can take the moonstone.

NIPPON SAFES INC.

Until I bought *Nippon Safes* I thought I could play adventures. I'm finding it impossible to get past even the opening screens of the main game, although I had fun with the intro. Even trying to get control of Doug is proving difficult. Why was this game given such high marks in your review? It's the most frustrating, badly-finished game I've played in a long time.

T. J. Sampson, Lowestoft.



Well how was it for you? I'm feeling quite flushed myself, but I think on the whole I enjoyed it. If you enjoyed it as well, make sure you keep a date with me next month when I'll try and reveal some more secrets from my little black book.

Remember, if you're having problems with any adventure or RPG game, then I'm only too willing to give you a helping hand. Or if you have any problems of a personal nature, write down your little problem and send it in a plain envelope to:-

'Dear Vampyra'
CU AMIGA, Priory Court,
30-32 Farringdon Lane,
London EC1R 3AU.

Oooh, you are cross aren't you. I must say I don't blame you, for I wasn't too impressed with this game either. And as for the beautiful Lady Fatale, she's got calves that only a cow could love!

When I played this game I was unable to handle either of the male characters, (and that upset me more than you'll ever know) but I assumed that I was playing a preview copy, I thought they would have fixed it before it was released. All I can do is tell you how to play the opening screens when you are controlling the girl and hope that it helps.

Once out of prison, turn right and take the road sign. Go left past the prison and take the mustard from the abandoned kiosk. (Yes it really is there, but you'll only find it if you use pin-point accuracy). Go to the right-hand screen and hitchhike using the sign. Get out of the car and go right, down and right again. Enter the Hot Sushi and speak to Dr. Ki, then speak to Max and Kos. Leave and go left twice. Examine the sign in front of the house and speak into the intercom. Go left to find the hot-dog seller. Buy hot-dogs, return to Hot Sushi, use mustard on the dogs and give them to Max and Kos.

Hope that gets you going, it's a pity nothing in the game did the same for me.

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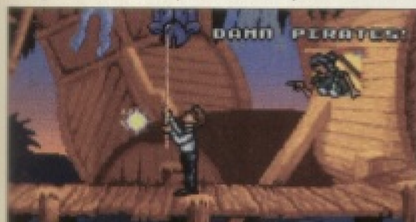
Ocean must have thought they'd grabbed the license of the century when they signed up Hook. After all, with direction by Steven Spielberg and cast of stars like Robin Williams and Dustin Hoffman it was sure to be a hit, wasn't it? Well, not exactly. Hook was one of those films that had all the right ingredients but had not quite been cooked to perfection. This point 'n' click adventure suffers from the same faults too – full of good intentions but it's been poorly executed.

The gameplay follows the film fairly closely with the player taking the role of Peter Banning – the adult Peter Pan – whose kids have been kidnapped by Captain Hook in order to lure Banning/Pan back to Neverland for a final confrontation. Unfortunately, Banning has forgotten that he's Pan and so can no longer fight or fly. It's your job to guide him through Neverland, find the Lost Boys and get them to help Banning remember who he is and regain his skills so he can rescue his kids. Once you've managed that, it's back into Pirate Town for the final fight with Hook.

The individual components of the game have been reasonably well executed and the graphics are extremely good. The game tunes, too, are quite good and vary according to location. So, why doesn't it get a higher mark? Well, the main problem is that it doesn't seem to hang together. The gameplay is, at times, illogical with some puzzles requiring odd solutions. There are no clues as to why a seemingly logical action cannot be carried out apart from a simple, 'I can't do that.' But, perhaps most damning are the numerous incidences of lazy coding when scenes and conversations happen out of sequence so, for instance, you'll be given text responses to questions that should only appear once you've had an encounter elsewhere. It's bad coding and it leaves you feeling confused.

Hook is a below-average attempt at capturing the *Monkey Island* audience. It's best not to bother with it unless you're really desperate for a point 'n' click adventure.

56%





Above left: **One of the first tasks set for you is to get some pirate attire. Without cash the only way to do it is to steal. First, you'll need to distract the washer woman though.**
Left: **Peter's lost his pants and needs to grab some more. After all, you can't go adventuring without a strong pair of trousers.**



Here's Peter in the Pirate's Square. That bright spark above his head isn't an idea bubble, it's Tinkerbell.

BLUE ANGELS

HIT SQUAD OUT NOW £9.99



Maybe someone should tell the pilot that screaming towards the ground upside down at 300mph is not a sensible manoeuvre.

Let's face it, the Amiga just can't handle flight sims very well can it? It's no good having chip sets which can cope with all sorts of things if your processor is slower than a snail with its shell nailed down. I often weep with frustration when I see PCs running amazing, detailed and smooth sims like EA's *Strike Commander*. Admittedly, you need a 486 running at 33MHz to make the most of it but at least there's the possibility.

Blue Angels is a prime example of what not to do with an Amiga flight sim. All the good parts of this genre have been stripped out, such as seeking a ground target and bombing the crap out of it or popping up behind a MiG-29 and blasting it with your cannons. Instead, what you have here is a simulation of formation flying. You get to become one of the American Navy's crack air display team... wow! There's no bombs, no guns and no enemy fighters; just a bunch of sailors dressed up as pilots flying through a series of hoops. You progress through the game by starting out in the simulator practising your special sequences before moving on to pretend airshows and then you face the real thing. It's all very tedious, undemanding and exceedingly boring.

Even ardent flight sim fans will go cold at the sight of this on their Amiga. Next time you see a sailor tell him to leave off the flying and to stick to the boats.

20%

CRYSTAL KINGDOM DIZZY

CODEMASTERS OUT NOW £9.99

According to Codemasters, Dizzy is the UK's most popular computer game hero. Judging by his game history they must be using a pretty dodgy dictionary up in their Warwickshire HQ. You know the one I mean, where great gameplay is defined as 'instantly forgettable' and fun and enjoyable means 'crap, dire and one to avoid'. Using those terms of reference I can recommend Dizzy's latest outing as being one of the most fun and enjoyable games to cross my desk incorporating some great gameplay.

If you really need to know, *Crystal Kingdom Dizzy* stars, yet again, our oval hero in a quest to recover the precious treasures, stolen by a mysterious thief. What this equates to is a slow, dragging platform adventure with the occasional arcade bit thrown in for good measure. All Dizzy has to do is walk around, talk to the various characters to get clues, then find objects to exchange with them. All very basic, unchallenging and boring. Technically, the game is fairly competent – the coding, the artwork and the sound. It's a game that would be more at home on the C64. What really surprises me is that Codemasters can still get away with producing this kind of game. Let's face it, despite virtually every single review of Dizzy games panning them completely you guys must still be buying them. Why? Even at £9.99 it's poor value for money. The game stinks just like a bad egg.

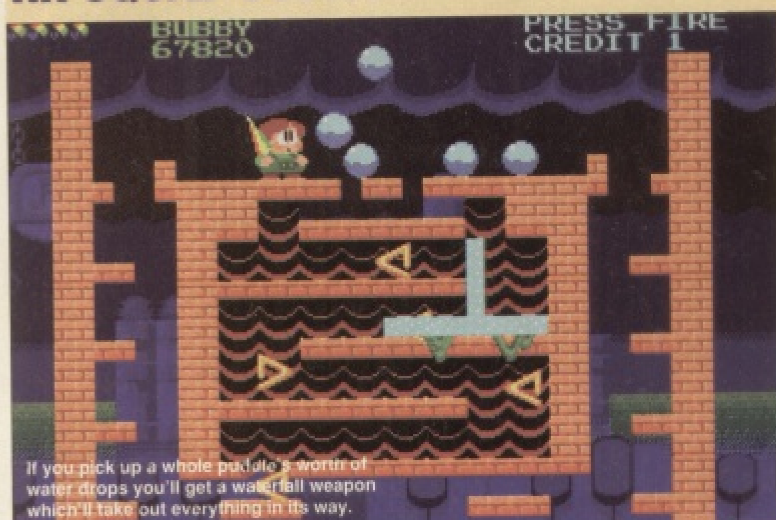
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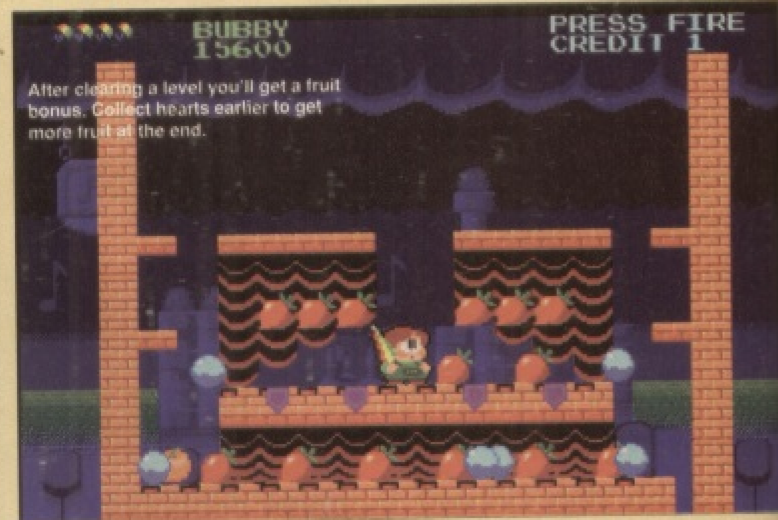
For a race made up of thinly-shelled egg people they've picked a funny place to live. I mean, one slip and it's omelette time.

PARASOL STARS

HIT SQUAD OUT NOW £9.99



If you pick up a whole puddle's worth of water drops you'll get a waterfall weapon which'll take out everything in its way.



After clearing a level you'll get a fruit bonus. Collect hearts earlier to get more fruit at the end.

Coming across as a kind of halfway house between *Bubble Bobble* and *Rainbow Islands*, *Parasol Stars* was a reasonable success first time round. The question is, though, does it stand the test of time? I mean games have progressed a long way since this first hit the shelves. There's no problem there, 'cos if there's one thing that keeps a game fresh it's good gameplay. And *Parasol Stars* has it by the bucket load.

The idea behind *Parasol* is similar to that cutesy platformer, *Bubble Bobble*, in that you guide Bub (or Bob in two-player mode). Around a small level populated by an odd assortment of baddies. Using a special rainbow brolly you stun the creatures and then pick them up to flick them off the screen. Bub can also use his brolly to catch drops of water and then shoot them off at the nasties. Catch enough drops and he gets a special shot which can become a water-fall, a shooting star or a lightning flash depending on the current active icon. Stunned creatures drop fruit and sweets which Bub can collect to increase his points total.

That's about it really. Nothing too complex, but then it doesn't need to be when it's as fun as this.

Parasol Stars was never the most innovative game around and it doesn't come up to the same standard as Bub and Bob's previous outing but it's certainly worth a look.

82%

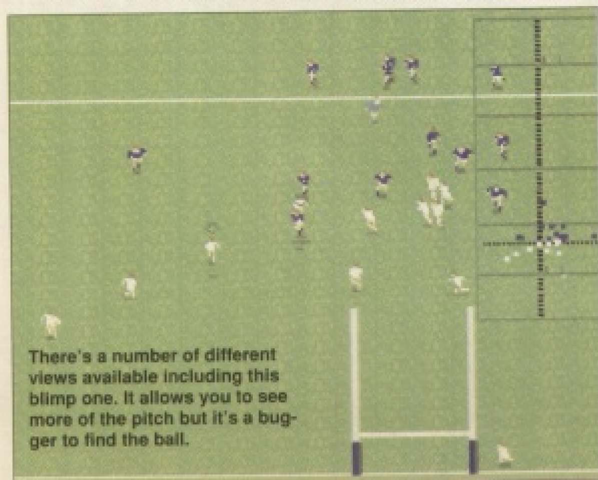
WORLD CLASS RUGBY

AUDIOGENIC OUT NOW £14.99

I've never been a great fan of rugby despite a brief stint as a winger on the school team. I always thought that sticking your head amongst other men's bottoms and shoving your hand between their legs was something best reserved for the privacy of the home.... Other people's homes. [*Hmm... do I sense some homophobia creeping in there? – Ed.*] Anyway, the beauty of Audiogenic's version is that sort of thing is neatly glossed over. You don't even have to hang around 14 other hairy men whose idea of a good time is to stand on a table, drop their pants and sing, 'I've got a lovely bunch of coconuts.'

If you've played *Sensi Soccer* or *Goal!* then you'll have a notion what *World Class Rugby* is like. You've got the same viewpoint, a similar control system and there's even an action replay mode. What you don't get, unfortunately, is any of the smooth scrolling and fantastic gameplay that make the two soccer games so great. Oh, and there's an odd-shaped ball too. The most impressive thing about *Rugby* is the addition of a set piece option that lets you initiate a preprogrammed series of moves designed to fox your opponents. So, whenever there's a line out (throw in, in football speak) or scrum (a chance to bite the opposition's ears off, in hooligan speak) you can choose from one of six or so sequences. Once started, the computer controls the sequence till it's complete when you take over again. This adds a welcome sense of strategy to an otherwise average game.

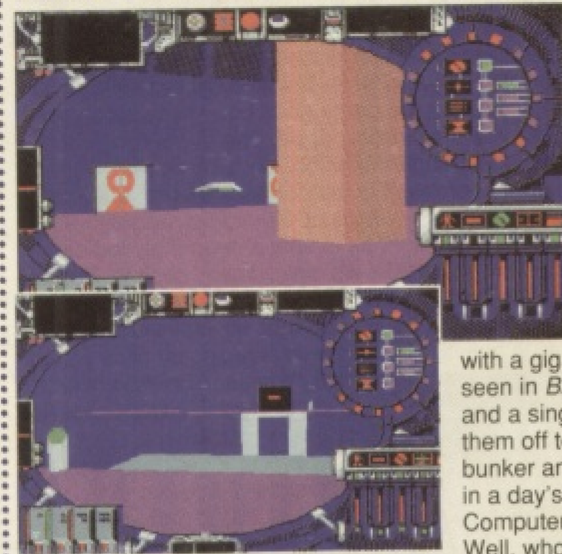
Otherwise, there's nothing sparkling about the presentation here. The graphics are flat, the sound effects intermittent and the gameplay slow. *World Class Rugby* is not in the same league as *Sensi Soccer* but, it is worth a look if you're a rugby fan. It'll pass the time on a wet Sunday afternoon – just.


There's a number of different views available including this blimp one. It allows you to see more of the pitch but it's a bugger to find the ball.

74%

CYBERCON III

KIXX XL OUT NOW £12.99


Top: Even though the rooms are pretty bare the game still plays at a speed barely faster than a camel with a broken leg.
Above: It's imperative to keep an eye on the floor now and then 'cos it has a tendency to drop away to another lower level.

Imagine a time when computers are more intelliger than man. Picture a huge underground desert bunker, ruled by computers with enough power to take over the world. Now conju up one man/woman, armed with a gigantic battle suit (as seen in *Battletech*, *Aliens*, etc and a single brief and send them off to shut down the bunker and save the world. A in a day's work for...Super Computer Games Player Mar Well, who did you expect?

Flicking through the *Cybercon* manual, you quickl realise what an ambitious pro uct it is, which isn't surprising considering it comes from Th Assembly Line (the coders behind the brilliant, but almost completely unfathomable *Interphase*). They have tried to create a fully-functioning 3D environment – something which can be achieved by anyone with a copy of the 3D Construction Kit, but with an almost completely alien int face. Sure, forward makes you walk forward and left and right rotate yo but past that it'll take you hours to figure out the overly-complex menu systems and completely-incomprehensible icon banks.

Something that really surprised me was the fact that it doesn't run on AGA machines, so most of you are stuck with running it on an A5 which really isn't worth it, believe me. There aren't usually a huge nu ber of polygons on screen, which leads me to wonder about how mu hidden work is going on. There must be a hell of a lot, otherwise why would the game run so slowly? When I mean slowly, I mean really slu gish, with the controls sometimes taking as much as two or three seconds to respond! This lack of speed mixed with the extremely confusing keyboard controls just leaves the game almost completely unplayable.

32%

AMIGA Workshop

All aboard! It's time to get on the fast track to intellectual and spiritual enlightenment with the quintessential guide to all things Amiga. Over the next 32-pages you'll discover step-by-step guides, tutorials and walk-throughs to some of the top Amiga programs. What's more, you'll also find our all-singing, all-dancing questions & answers section where our team of in-house experts attempt to exorcise your computing problems. On with the show...

ISSUE 12 DECEMBER

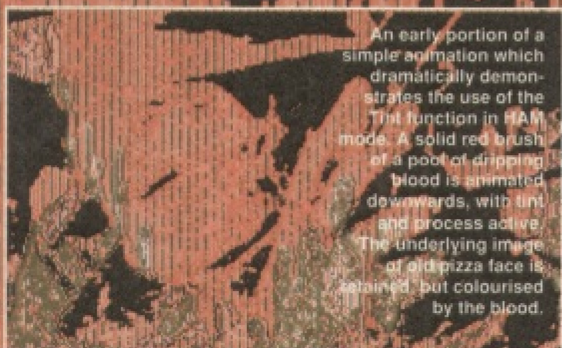
Regulars

DELUXE PAINT TUTORIAL

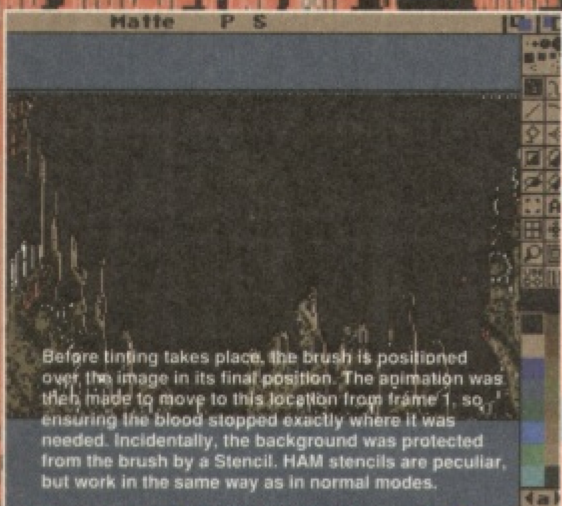
PART 11

Finding a few more stones still left unturned in our year-long series of *DPaint* tutorials, Peter Lee lays bare some more mysteries to help you become a prince among artists with the King of art programs.





An early portion of a simple animation which dramatically demonstrates the use of the Tint function in HAM mode. A solid red brush of a pool of dripping blood is animated downwards, with tint and process active. The underlying image of old pizza face is retained, but colourised by the blood.



Before tinting takes place, the brush is positioned over the image in its final position. The animation was then made to move to this location from frame 1, so ensuring the blood stopped exactly where it was needed. Incidentally, the background was protected from the brush by a Stencil. HAM stencils are peculiar, but work in the same way as in normal modes.



In a non-HAM mode, you need to have defined a good range of colours if you are to use the tint option. *DPaint* can't invent colours if they're not in your palette. Here, decorative shapes are tinted onto the face, with an eye to their contour, for added realism.

Printing on the Amiga can be a very confusing business, what with printer drivers, prefs and everything. But printing isn't a problem with *DPaint*. Once you've set up the Workbench and read the manual, *DPaint* will happily output its imagery to hard copy.

The quality of the printout, however, depends on several factors: the screen's resolution, the printer and the colour range. If you want to print a screen (let's say you're designing a photo album front page or something), then you should consider using one of the higher resolution modes as this should guarantee a more detailed print out and curves or text will look much smoother and finer. Colour is another important consideration. On a black and white printer, blues and reds can look identical, and light colours can be lost altogether. Experiment by printing a colour chart to see exactly how your printer copes with colour. You might have to alter your image to something pretty weird looking to get the kind of monochrome hard copy you want, for example you may have to paint the sea yellow and the sky green to get the colours that you really want on your print out.

TIP – If your picture doesn't take up the whole screen and has big black borders around it, fill the spare area with white before printing to avoid wasting ink or ribbon.

ANY FINAL REQUESTS?

DPaint's print requestor is straightforward for the most part. Here's a breakdown of some of the components:

Aspect: Tells *DPaint* to either print the picture horizontally or vertically.
Image+/–: Tells the program to print either a positive or negative image.
Shade control: This depends on your printer. If you have a colour printer, then you can specify colour. Normal printers would use either the black and white option (for line-art in one colour) or grey, which will convert colours into dot patterns of different shades.
Placement: Gives you the choice of printing either to the left of the page, or in the centre.
%: Allows you to increase or reduce the size of the printout by the amount entered in the % wide and % high requestor boxes.
Dots: This is controlled in the same way as %, but it specifies the size of the printout in terms of printer pixels.



On some occasions you may want to use a picture larger than the actual viewing area – for things such as long animated pans or for maximum overscan in video-taping. *DPaint* allows you to see the big picture with the Show Page option. The full image is marked with the area currently viewable on the drawing screen. However, you cannot edit on a page shown in this way, its just for reference.

Line Feeds: Tells the program how many blank lines to print after it has finished printing the image.
Copies: Tells it how many times to print the same picture.
Form Feed: Allows *DPaint* to move to the next sheet of paper before the next printing job.

PREFERENCES

Preferences is a menu which is tucked away like some afterthought on the very right-hand side of the window. Most people ignore this menu, but it does have a direct effect on how smoothly and accurately your drawing session goes. Here's a who's who of the features:

Be Square: Unfortunately, the pixels which make up the smallest part of your Amiga's display are not square. To counteract this you can select this item from the Preferences menu, and *DPaint* will adjust its output so that, for instance, the circle tool will draw a perfect circle in the given mode. Also affected are the other shape tools, symmetry and the built-in brushes. Having perfect circles has never bothered me after years of freehand drawing you come to expect the oval, but if you intend printing out your work, a 'Be Square' circle does look more accurate. Note, however, that the grid and perspective functions are unaffected by this option .

Fast Feedback: Very handy; if you are using a brush with a drawing tool, say the open rectangle, because *DPaint* keeps on drawing the brush as you rubber-band your image, hoping to position it accurately. This can be extremely annoying and time-wasting, so the FastFB option lets you turn this feature off. Instead of your brush doing the honours, a ghosted line acts as your reference as you use the chosen tool. Releasing the mouse button allows *DPaint* to draw in your brush.

Multicycle: Used with the Mode/cycle command, this option lets you paint with a brush containing several colours, any number of which can cycle according to your choice in the colour requestor. If you have a multi-coloured brush containing three separate ranges, say, and have colour cycling activated, only the current foreground colour will cycle unless you select Multicycle, in which case the three colours will spin through their ranges automatically as you paint.

Workbench: Acts as a toggle to turn on or off the Workbench. Off is useful if you have shortage of memory problems.

Excl Brush: A bit surplus to requirements this one. It only works when the Grid function is on and all it does is strip a pixel border from the bottom and right edges of any brush you pick up. This is supposed to be good for having later fills based on your brush match perfectly. But if you pick up your square brush properly to start with, there's no need to fuss about this function.

AutoTransp: Now this *is* clever. With this feature activated, *DPaint* checks the four corners of your brush, and if they're the same, it declares to itself, 'This is the background, I'll make it invisible'. And it does. Failing an all-correct answer, it



When *DPaint* has to move large brushes around the screen, it slows things down considerably. But by accessing fast feedback from the preferences menu, you can boost things quite a lot. Take this as an example: drawing a rectangle with the King Tutankhamun head active takes ages as you re-size the box. But with fast feedback, only a line is rubber-banded on screen until you commit to drawing by releasing the left mouse button.

reverts to the colour already selected in the palette as the background.

No Icons: Provided you do not intend to start an animation, or *DPaint* itself, by clicking on an image icon, you can turn off this feature. This will save disk space, albeit only four hundred bytes or so – but every little counts.

If you like running animations in the Player utility (as covered in last month's tutorial) then it makes life easier to have icons associated with your sequences as you can shift/click on an animation icon, and shift/click on the player icon to automatically play your animation.

Autogrid: This works only on the perspective grid – the invisible 3D map of the world created by *DPaint*. With this option active the perspective grid is automatically sized to match any custom brush you pick up or load in.

OriginUL: This is halfway to a good idea; it lets you tell *DPaint* to calculate its co-ordinates measurements from the upper-left corner of the screen instead of the default location, which is the lower left. What would have been nice would have been the ability to place your cursor anywhere on screen, and tell *DPaint* that that particular point was 0,0; that way you could work out lengths without mind-warping math calculations.

Fast adjust: Works only in *DPaint IV*'s HAM (Hold and Modify) mode. When switched on it lets *DPaint* get away with not correcting the annoying fringing effects which can occur as you move a HAM brush over screen colours. It makes for faster brush movement at the expense of cosmetics.

GRAPHIC AIDS

The final features: *DPaint* is at last laid bare with the low-down on features which should prove useful, if the need arises:

Overscan: The standard low-res Amiga PAL screen is 320 pixels wide by 256 deep. This is fine for most jobs; the exception is when you need to fill the entire screen with an image. Low res maintains a black border around the image, and you can imagine how irritating this is if you intend using any of your *DPaint* images for video work, slideshow presentations of your artwork, or for video titling for instance. By selecting Overscan from the Picture/Screen format requestor you can force *DPaint* to give up these wasted edges, and use them in your work.

In *DPaintIV*, selecting Std (standard) overscan is fine for most applications as it gives you access to the whole screen at once. Max, on the other hand, gives you access to areas off the current viewing area – a virtual image which is bigger than the screen you're seeing it on. This is only really needed for video equipment which is so sensitive, it leaves a black edge around normal overscan. At »



The steps to creating a circular brush...







... and here's one of the uses you could possibly put it to: the round brush spins and tumbles in space in this short sequence, until it slots into Darth's body.

ROUND IN CIRCLES

Sometimes you will need a circular brush, and picking one up is not as difficult as it seems. There are two methods I use, and as there's not much to choose between them, I'll explain both. The first is to choose the open circle tool and use a large in-built brush to encircle the arc of your brush in colour – say red. Now paint in the entire area on the outer edge of the circle with red. With your background colour now set to red, you can pick up the round brush.

TIP: This also works for irregularly-shaped brushes. The line-cut feature of *DPaint* isn't really suited to smooth curves, so by outpainting the area you don't want around your selected portion, you can pick up an irregular brush of any shape and complexity.

Method two involves fixing the background of your picture, then covering it entirely with a single colour (don't worry, the picture is protected). Next, draw a circle on the spare screen, cut it out as a brush and flip back to your main screen. Place the round brush over the area you want and right-click the brush down to rub-out the overlying colour and expose your image. When you're happy, free the background, and with the background colour now set to your screen covering colour, pick up the circular brush.

» any time you can view the entire image in overscan by selecting the Pictures/Show Page menu item (keyboard S), which will shrink the image if necessary so you can get a full-out view of what's there.

Grid: Bit of a cheat this. 'Real' artists frown on it, so it must be good. Activating the Grid icon on the toolbox menu (or pressing G on the keyboard) activates an invisible net of intersecting lines.

The grid itself can be defined to any size you want; Right click on the Grid icon and you'll be presented with a requestor which as well as allowing you to type in X and Y values for the width and height, allows you to adjust the grid on screen in real time. If you select adjust, a ghosted grid will appear, with your cursor attached at the bottom right. By using the mouse with the left button clicked you can size the rectangles to suit your needs. And remember, they don't have to be square.

Once you've done that, and the Grid icon is highlighted, every time you draw anything on screen, it will jump to the nearest invisible grid position. And the real benefit of this is twofold; If you are sketching out the initial stages of a drawing before painting, then the grid will ensure your lines are straight and true. Drawing three sides of a house, for instance, would be really hit-and-miss without the grid on. Secondly, if you like creating patterns to use as fills, drawing your pattern to the extent of the grid lines will ensure that when you pick it up, the join around all four sides will be perfect when you do large area fills.

Friskets: This is the artistic term for a stencil. In conventional studios, a frisket is a piece of paper or card which has been shaped, and placed over a drawing to protect what's underneath. We Amiga artists have it a lot easier.

DPaint lets us choose exactly which colours to make into a frisket so they are untouched by whatever we paint on top.

Colours are selected for protection by calling up the Stencil requestor (the ~ key above the TAB key), and clicking on any colours you want to secure. You can also select colours by clicking on them in your drawing.

Stencils are ideal for allowing you to work on foreground objects, then add middle-distance and background ones later after you've protected the colours in your initial drawing. In effect, it allows you to layer your work for a time, the foreground and background being independent until you're happy with them.

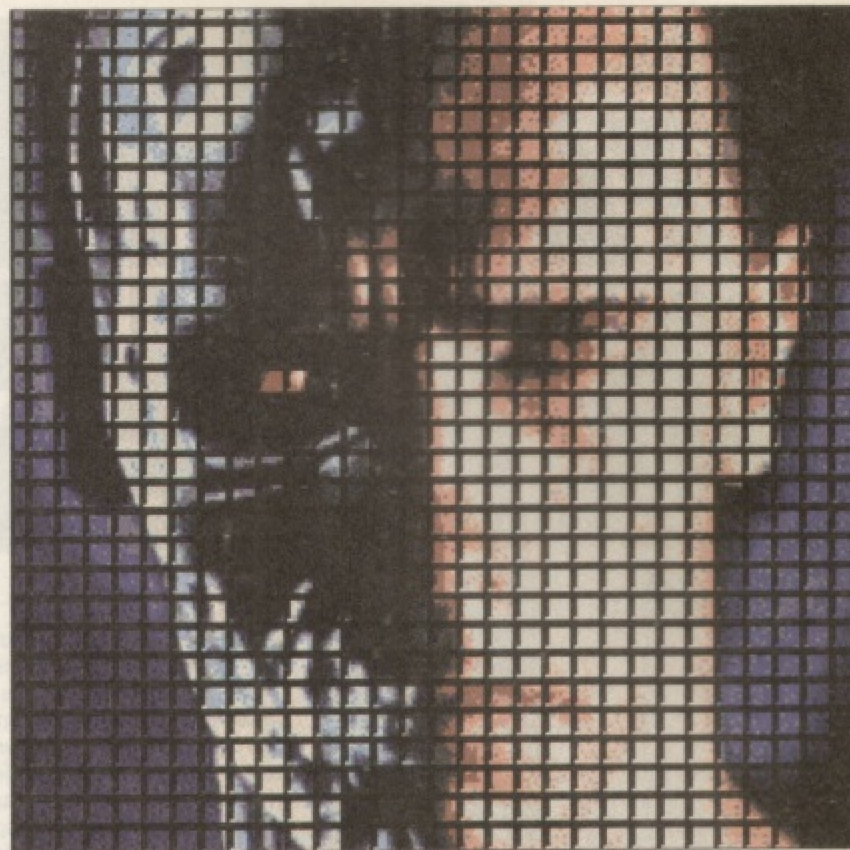
Used in conjunction with Background Fix, which we covered in an earlier tutorial, it means you are no longer forced to look at your graphics as a one-shot job – you can piece the elements together to suit your own methods as your ideas expand.

Merging: It's all too easy to see the spare screen as something of a doodle area, but, in fact, it can be a useful tool in its own right, especially for animation work. The way I prefer to work on an animation is to do the fiddly bits first – the movement and foreground, then add the background after everything's working sweetly. This could turn into a bind – without the spare screen, and the Merge command.

A spare screen can be superimposed behind everything you've already created on your animations by calling on the picture\spare\merge behind menu option, and specifying the number of frames you want merged in this way. Wherever there's a background colour, the spare screen will show through.

Anim painting: While *DPaint III* and *IV*'s animation move requestor offers plenty of scope, you should also master this technique, because it gives you much finer control over angles and distances. Using the move options to have several brushes synchronise at precise angles is a real nightmare, but Anim painting offers a much easier option.

We covered the subject of Anim painting in an earlier tutorial, but for a demonstration of how it can help with quick and efficient animations, check out the example I've created for you this month which is in the panel on the left-hand side of this page. CU



One nice use of the Grid function is to create a ceramic mosaic effect on an illustration. Here a grid of 1cm x 1cm was used to draw a grid and highlight, which when cut out as a brush, and painted over the image (with the Grid still active) created this effect.

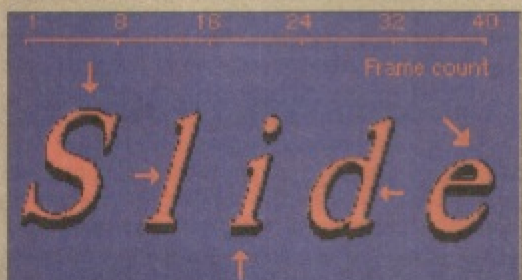
ANIM PAINTING

You don't need an animated brush to make use of *DPaint*'s clever Anim painting routines. Here the five letters of a word slide in from all angles in sequence. Bypassing the program's move requestor this time, this is when manual control comes into its own. By selecting a line N total of six, then Anim painting the letters individually (that's done by pressing the left Amiga key if you are running *DPIII*, the left Alt key for *DP IV* users) to their proper location, you can create this neat effect. As each letter requires six fr frames to draw, you will need a minimum 30 frames for the effect as the next letter only starts to appear after the previous one is in place.









Schematic plan showing the movement of the letters which make up the text.
Using the Line tool's N-Total feature gives excellent manual control over brush movement for hand-made animations.

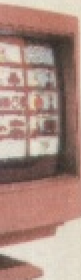
Above: A schematic showing the pre-planning for the text slide effect.

WHAT EXACTLY DOES THE STATUS BAR DO?

Ever-helpful, at various stages of certain operations, *DPaint* will keep you informed in the status bar (that's the strip along the top of the screen, where the pull-down menus drop from). As well as giving a readout of co-ordinates (if activated from Preferences), the bar also shows if you have a gradient or custom fill selected by doing a miniature representation of it; 'S' means a Stencil is active, and for *DPaint IV* users there is also the following information: 'P' shows Process active, 'S' indicates that Stencil Show or Stencil Paint are active, and 'T' indicates Translucency is on. Additionally, the status bar offers feedback when in Perspective mode, displaying the rotation around each of the axis (x, y and z). Also, if you press the Ctrl and 'A' keys together, you will be given details of available Fast/Chip memory (in the same way as opening the About menu item does.).

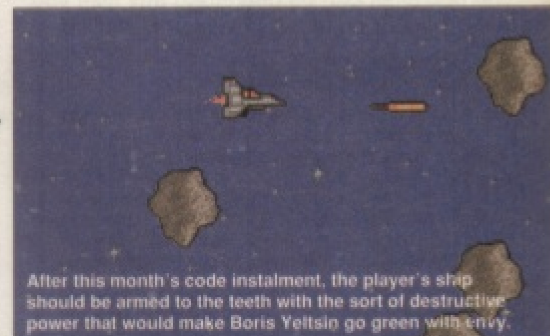
NEXT MONTH

It's the final instalment of our epic 12-month *DPaint* odyssey, when Peter Lee wraps up the series with a Q and A Masterclass, trying to answer some of the riddles which beset all Amiga artists at one point or another.

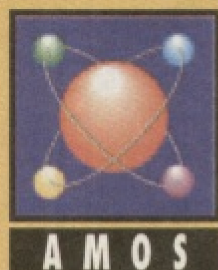


GAMES PROGRAMMING MADE EASY

Dave Smithson completes his *AMOSteroids* game and peps up the gameplay by adding missiles and collision detection.


After this month's code instalment, the player's ship should be armed to the teeth with the sort of destructive power that would make Boris Yeltsin go green with envy.

PART 8

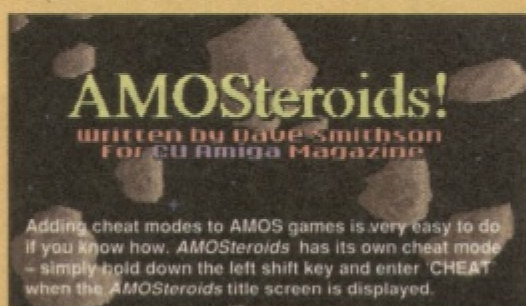

AMOS

GENERATING EXPLOSIONS

Our demonstration game doesn't actually include any form of animated explosion graphics which occur when either the asteroids are hit by the player's missiles or the player himself bites the dust, but they're surprisingly easy to add if you're feeling adventurous. The first step is to draw up the animation of an explosion that uses the same colour palette as your main game screen. You don't need to be artistic to draw a decent explosion. I tend to use *DPaint*'s airbrush tool to create a tightly-packed circle that, from the onset of the explosion, changes from yellow, to orange and finally to red.

Once you've inserted the animation frames into your sprite bank, you'll need to modify the *AMOSteroids* source code to handle explosions. The first thing you'll have to do is to extend the data structure assigned to the asteroids with the inclusion of a status variable that under normal circumstances is set to '0'. However, when one of the player's missiles strikes an asteroid, change this value to '1'. Each time the main game loop is performed, increase this value until it reaches a maximum value, indicating that the explosion has run its course.

With the asteroid's status set to indicate that it has been hit, you can then change the image number associated with the asteroid to the number of the first frame in your explosion animation. Then assign an AMAL animation string to the asteroid so that it runs through the animation of the asteroid exploding for exactly the same number of frames that you allow the asteroid's status variable to be increased to. If, for example, you allowed the explosion to last for exactly twenty loops of the main game loop, then you'd create an explosion animation that lasts exactly twenty vertical blanks. (Don't forget that the main game loop should theoretically take no longer than a single vertical blank to complete.)



Adding cheat modes to AMOS games is very easy to do if you know how. *AMOSteroids* has its own cheat mode – simply hold down the left shift key and enter 'CHEAT' when the *AMOSteroids* title screen is displayed.

Our shoot 'em up game, *AMOSteroids*, is really starting to shape up into quite a playable little game. Although it's not quite in the same league as commercial shoot 'em ups like Team 17's *Project X* and other games of the same genre, it forms the perfect foundations of a much bigger project. So far, we've managed to get the player's ship moving up, down and across the screen and we've even added a parallax asteroid field that the player must blast their way through. There's one big problem, however – not only does the player's ship have no weapons to speak of, but even if the ship does come into contact with an asteroid, it has no effect whatsoever.

So, to solve this problem and to make the gameplay a bit more exciting, we are going to add two last routines to *AMOSteroids* – collision detection and the missiles routine that will allow the player's ship to fire missiles at the oncoming asteroids. Just to make life somewhat easier, let's start with the missiles routine.

ALL FIRED UP

All shoot 'em ups and, indeed, most other types of game, allow the player's sprite to fire some form of projectile. Although the type of projectile may change depending on the game, the code is nearly always the same.

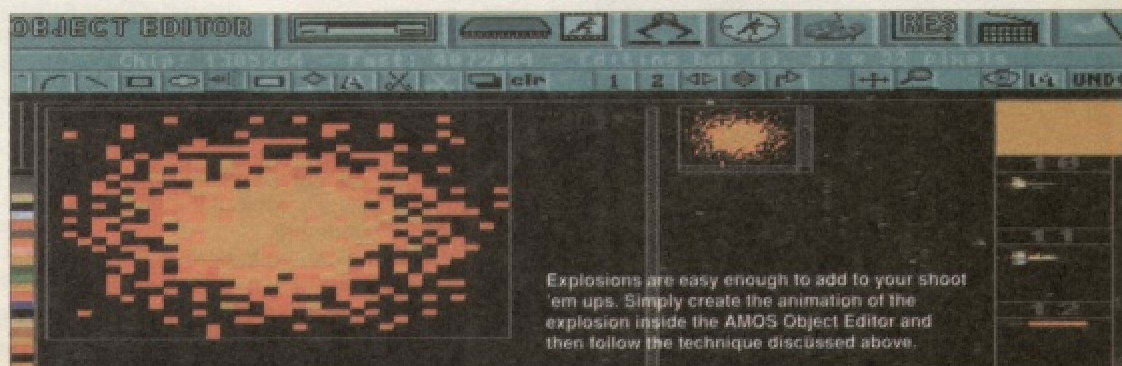
Up until now, we've used blitter objects for every moveable object on the screen, but hardware sprites (AMOS' sprites) are much better at displaying missiles. This is because hardware sprites are faster than blitter objects, and so we can display and manipulate far more of them without damaging the game's performance. If you *were* to use blitter objects for your missiles, you'd probably find that your game would be too slow to be playable because getting AMOS to draw even a couple of blitter objects can eat up large slices of each game frame, hence slowing the game down. (A game 'frame' is the time it takes to run the 'main game loop' just once. For a normal arcade game, the main game loop should run at a rate of 50 frames per second on a PAL Amiga.)

CODES GALORE

The code that handles the missiles in our demonstration game, *AMOSteroids*, is very simple. The most important element of the routine is the 'MISSILE()' data structure that is set up at the start of the program. It's very similar to the data structure that we used last month to control the movement of the asteroids. Each missile has its own data structure that contains three elements – the missile's current 'X' and 'Y' screen position and its status. When a missile is fired, its status is set to '1' indicating that the missile is currently in use. If the missile should happen to strike an asteroid or it leaves the screen, this status value is reset to zero so that AMOS knows that it can be fired again. Let's take a look at the code that is responsible for handling the player's missiles.

```
Rem *** MOVEMISSILE procedure
Rem *** Updates position of missile & checks to see
Rem *** whether player has pressed fire button
Rem ***   MISSILE(0) = Missile Status (0-Off 1-On)
Rem ***   MISSILE(1) = X Position of missile
Rem ***   MISSILE(2) = Y Position of missile

Procedure - MOVEMISSILE
 If MISSILE(0)=1
   MISSILE(1)=MISSILE(1)+8
   If MISSILE(1)>320
    MISSILE(0)=0
    Sprite Off 1
   End If
   Sprite 1,X Hard(MISSILE(1)),Y Hard(MISSILE(2)),12
 End If
 If Joy(1) and 16
  If MSLDELAY>20 or MISSILE(0)=0
    Sam Play 1
    MISSILE(0)=1
    MISSILE(1)=SHIPXPOS+20
    MISSILE(2)=SHIPYPOS+14
    Sprite 1,X Hard(MISSILE(1)),Y Hard(MISSILE(2)),12
    MSLDELAY=0
   End If
  End If
  MSLDELAY=MSLDELAY+1
End Proc
```



Explosions are easy enough to add to your shoot 'em ups. Simply create the animation of the explosion inside the AMOS Object Editor and then follow the technique discussed above.

FIRE AND FORGET

The routine starts by checking the status of the player's missile – we could have extended the game so that the player can fire more than one missile simultaneously simply by adding a loop, but I decided to restrict the game to just one missile to make the game more challenging. If the missile's status ('MISSILE(0)') is set to 1, then the missile has been fired and the routine executes a section of code that is responsible for moving the missile across the screen. Although the missile itself is actually a hardware sprite, its co-ordinates are held within the 'MISSILE()' data structure as screen co-ordinates and then converted to hardware co-ordinates when they're needed. This just makes life easier when it comes to positioning the missile.

Once the routine has detected that the missile has been fired, the first thing that it does is to add a value of eight to the missile's 'X' screen co-ordinate. Unlike the asteroids, this value never changes, so the missiles will travel across the screen at the same speed regardless of how fast the asteroids are moving. If you'd like to alter the speed of the asteroids, simply decrease this value to slow down the missiles or increase it to speed them up. With the missile's 'X' co-ordinate updated, the routine then checks to see whether the missile has left the screen by comparing its position against a maximum value of 320. If the missile's 'X' co-ordinate is greater than 320, the missile's status is reset to zero and the missile sprite is turned off.

The other half of the routine handles the firing of missiles when the player presses the joystick fire button. Before the missile is actually fired, however, a variable called 'MSLDELAY' is checked. This variable is used to slow down missile firing so that the player cannot shoot off a continuous stream of missiles when they are on the far right-hand side of the screen. By simply increasing the value of this variable each time the main game loop is executed, the firing of missiles is delayed by twenty frames. This doesn't really matter if only a single missile is available, but once you start writing arcade games which allow the player to pick up 'power ups' (try saying that when you've had a few too many bevvies!), the firing of missiles must be delayed so that the player doesn't fire off all their available missiles in one go!

If the 'MSLDELAY' variable is greater than 20 then the missile can be fired. Before the missile sprite is drawn onto the screen, however, the missile's status is set to one and the origin of the missile is found by offsetting the missile's 'X' and 'Y' co-ordinates by that of the player's ship. Positioning missiles so that they appear to fire from a ship's guns takes a fair bit of experimentation, but it's well worth taking them time to position them correctly – there's nothing tackier than seeing missiles streaming from the exhaust of a spaceship!

COLLISION DETECTION

With the missile-handling code in place, all that remains to make our game playable is to add that all-important ingredient – collision detection. Two types of collision detection are needed – collisions between the player's missiles and the asteroids and collisions between the asteroids and the player's ship.

Detecting collisions between bobs is very simple indeed, but detecting collisions between hardware sprites is much harder. Although AMOS automatically creates the 'mask' necessary to detect collisions between bobs, it's up to you to create the mask required by the collision detection commands when hardware sprites are used. In the case of *AMOSteroids*, this is done at the start of the program using the Make Mask command. If you forget to issue this command, AMOS will never be able to detect collisions even if a hardware sprite is sitting directly on top of a blitter object.

The routine that handles the two collision events we need to check for is called every time the main game loop is performed directly after all the graphic objects have been moved. Here's the collision detection routine in all its AMOS glory.

```
Rem *** CHECKCOLLISIONS Procedure
Rem *** Checks for collisions between ship
and asteroids
Rem *** DEAD = Set to 1 if ship collided with
asteroid

Procedure -CHECKCOLLISION
    If Spritebob Col(1,0 To 7)=-1
      Sam Play 2
      For C=0 To 7
         If Col(C)=-1
           Bob Off C
           Sprite Off 1
           ROCKXPOS(C)=-40
           MISSILE(0)=0
           SCORE=SCORE+50
         End If
      Next C
         End If
         If CHEAT=0 and Bob Col(10)=-1
           Sam Play 2
           DEAD=1
         End If
End Proc
```

The routine starts by checking for collisions between the player's missiles and any asteroids that may be unlucky enough to stray in front of the player's line of fire by calling the 'SpriteBob()' function. The value returned by this function doesn't actually tell us which asteroid the player's missile collided with – all it does is to return a value of '1' if a collision took place.

In order to find out which asteroid bit the dust, the routine enters a loop that checks each asteroid in turn using the 'Col()' function to see whether it was hit. When the asteroid that was actually in collision with the player's missile is located, both the asteroid bob and the missile sprite are turned off, the missile status is reset to zero and the player's score is increased by fifty.

Note how the asteroid that we turned off is not automatically regenerated at the far right-hand side of the screen. Instead, the 'X' position of the existing asteroid is set to '40' so that when the main game loop is executed again, the 'MOVEASTEROIDS' procedure (we covered it last month) will think that the asteroid has moved off the screen and will therefore regenerate the asteroid for us. Clever eh!

The second collision detection event between the player's ship and the asteroids is somewhat less involved. It's not really that important that we check which asteroid has collided with the player's ship, so all that is needed is to call the 'Bob Col()' function. If the result returned by the Bob Col() function is true (indicated by a value of '1', the sound of an explosion is played and the game ends.

It's worth noting how the variable 'CHEAT' is checked at the same time as the result of the 'Bob Col()' function. If the player had managed to activate the cheat mode on the title screen – by holding down the shift key and typing 'CHEAT'– the variable 'CHEAT' would contain a value of one and collision detection between the player's ship and the asteroids will be turned off.

GAME OVER!

With all these routines in place, you should now have a working shoot 'em up. It's by no means the ultimate in shoot 'em up coding, but why not have a go at extending the code yourself by adding such features as explosions, power ups and why not add an alien spaceship or two that can enter the asteroid field and start shooting at the player. Better still, why not use the *AMOS- teroids* code for the framework of your own shoot 'em up game – if you manage to produce a game that is significantly better than my own feeble effort, then why not send it in to CU Amiga? Who knows, maybe your game could end up on our coverdisk! CU

CHEAT MODE!

I've spoken at great lengths over the past couple of months or so about the cheat mode built into *AMOSteroids*, but I haven't yet discussed how it was implemented or indeed how you can add a cheat mode to your own AMOS games. *AMOSteroids* uses a very simple technique which checks to see whether the user enters the string 'CHEAT' whilst holding down the shift key when the game's title screen is being displayed.

If you study the source code for *AMOSteroids* that we published on the coverdisk a couple of months back, you'll find the following section of code embedded inside the 'TITLESCREEN' procedure. Anyway, check out the following cheat code:

```
Rem *** Check for Cheat mode
If Key Shift=1
   CHEAT$="" : OK=0
   Repeat
         A$=Inkey$
         If A$""
               CHEAT$=CHEAT$+A$
         End If
         If CHEAT$="CHEAT"
               If CHEAT=1
               CHEAT=0
         Else
               CHEAT=1
         End If
         Bell : OK=1
         End If
   Until Key Shift=0 or OK=1
End If
```

This routine is very simple indeed. All it does is to check to see whether the Amiga's shift key is being depressed. If it is, it enters a loop that is terminated if the player lets go of the shift key. Whilst the shift key is being depressed, however, the keyboard is scanned using the 'Inkey$' function and as the player types, the characters that they enter are appended onto a variable called 'CHEAT$'. If this variable eventually ends up containing the string 'CHEAT', the value held in a second variable of the same name is checked. If this variable already contains a value of '1', it's reset to '0' effectively turning off the cheat mode. If it hasn't already been set, however, then a value of '1' is assigned to it.

In order to make use of this handy cheat mode, all you have to do is to add an 'If...Then' construct to your game that checks the value of the 'CHEAT' variable. If, for example, you wanted to turn off collision detection between the player's sprite and the background, all you do is to enclose the code that controls this feature of your game within an 'If...Then' construct that is performed only if 'CHEAT' contains a value of zero.

T-T-T-T-THAT'S ALL FOLKS

Ahhhhh. All good things must come to an end, and this is the final curtain for our AMOS tutorial. If you'd like to see our AMOS column return, why not tell him what you'd like to see it cover.

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INSIDE AREXX

PART 1

Dave Smithson starts off the first of a regular series introducing the *ARexx* language. Find out what it is and what it can do for you.

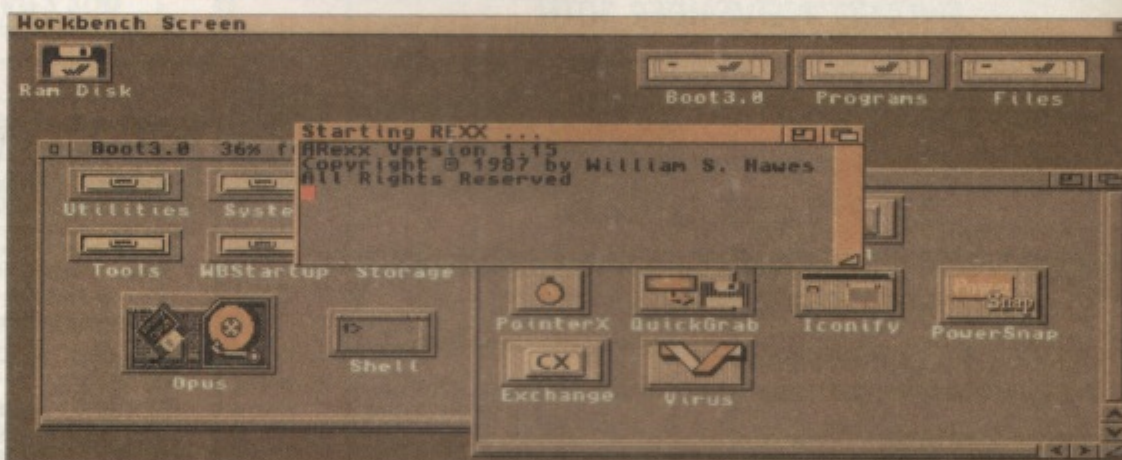


AREXX

Back in the days when the A1000 was still king, industry observers claimed that the Amiga was Commodore's best-kept secret. They certainly weren't paying Commodore any compliments, it was a direct criticism of Commodore's failure to push the Amiga into the markets that it so deserved to penetrate. Now that the secret is finally out of the bag, the Amiga itself also has a well-hidden attribute which is *ARexx*. Despite the fact the *ARexx* has been bundled with the Amiga ever since the release of the A500 Plus and the early A3000s, *ARexx* has remained one of the *Amiga*'s best-kept secrets.

Much has been said to extol the virtues of *ARexx* both in the popular Amiga magazines and even amongst users, but *ARexx* and its capabilities still continue to be something of a mystery to most Amiga users. Even those users that know a thing or two about the Amiga and its clever slithers of silicon rarely even scratch the surface of the true power of *ARexx*. So why is everyone getting so excited about *ARexx* when nobody actually seems to be using it? Is it really as good as the hype would have us believe? Well, one thing is for sure – *ARexx* is certainly one of the most powerful aspects of the Amiga's operating system.

To understand why *ARexx* is so important, let's take a look at exactly what it is and what it is capable of. At it's very simplest level, *ARexx* is an interpreted programming language that is perhaps best thought of as a sort of hybrid that combines the best of AmigaDOS' 'Script' language with a conventional programming language such as *AmigaBASIC*. Programming in *ARexx* is a bit like programming a compiled language like *C*. However, because all your *ARexx* scripts (a 'script' is the *ARexx* equivalent of a BASIC program) are written and executed from within the Amiga's 'Shell' environment, you really do need an understanding of AmigaDOS in order to use *ARexx* properly.

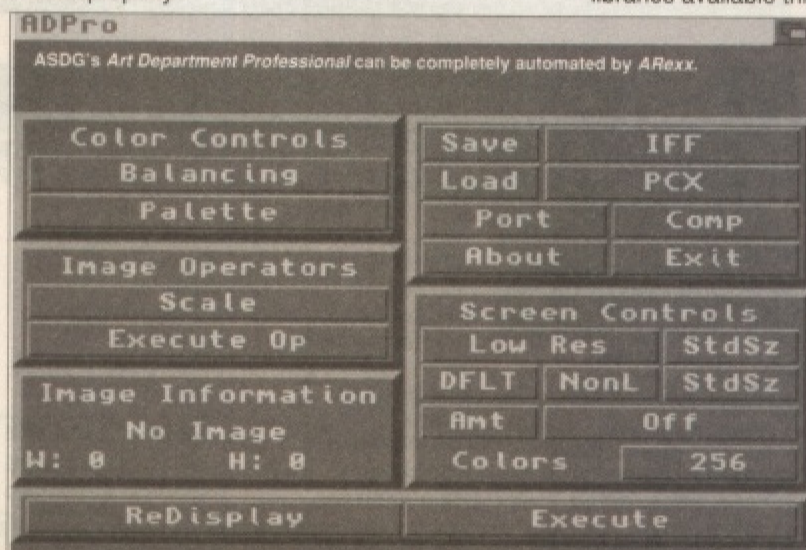


Double click on the *RexxMast* icon that can be found in the System drawer of your Workbench disk and *ARexx* will be running on your Amiga!

This rather unfriendly working environment perhaps explains why *ARexx* has taken so long to catch on. After all, the casual Workbench explorer is unlikely to know that *ARexx* even exists! Most Amiga beginners have trouble trying to find the right icon to drop them down into the 'Shell', so what chance have they of locating *ARexx*! If your AmigaDOS skills need polishing up, then may I strongly recommend that you swot up on AmigaDOS before embarking on the tutorials that we'll be covering over the next few months or so.

AREXX LAID BARE

So what is ARexx? We've already said that it is a programming language, but this sort of generalisation hardly does *ARexx* any favours. After all, such general terms hardly provide an indication of a language's strengths and weaknesses – it's a bit like grouping a Ferrari Testarossa with a Vauxhall Astra simply because it has four wheels and an engine! *ARexx* can be used for just about the same sort of tasks that a conventional language like *BASIC* can handle – it can open and examine files, perform calculations, manipulate strings and even access *Intuition* if you've managed to get your hands on one of the many *ARexx* function libraries available through the public domain. But *ARexx* goes so much further than this.



ASDG's *Art Department Professional* can be completely automated by *ARexx*.

One of *ARexx*'s most celebrated features is its ability to automate the operations of any program that offers what the techies call an *ARexx* port. Now that *ARexx* has been doing the rounds for a number of years now (yes, *ARexx* was available long before Commodore took it under its wings!), software and hardware developers alike have been quick to incorporate support for *ARexx* into their products. Providing that the program that you wish *ARexx* to automate boasts an *ARexx* port, you can automate long-winded tasks by simply writing an *ARexx* macro that sends commands to the host program (the program that is being automated) in the form of a short program written using a standard ASCII text editor such as the Amiga's Ed editor. In many ways, controlling an application through *ARexx* is like breaking into a bank through the backdoor; although you're still essentially making a withdrawal, the whole process is carried out without having to involve the bank teller (or, in the case of an Amiga application, without having to click on icons and select menu options with the mouse).

AREXX IN CONTROL

Any program that allows itself to be automated by *ARexx* will have a set of commands built into it that are hot-wired to the gadgets that you would normally click on to make something happen. Take a program like ASDG's *Art Department Professional*, for example, if you wanted to load a picture into *ADPro* manually, you'd click on the Load gadget. However, with *ARexx*, all you do is send the command Load followed by the filename of the image that you want *ADPro* to load into memory. Remember: these commands aren't built into *ARexx* – if *ADPro* wasn't running at the time you executed your macro, *ARexx* wouldn't even recognise the command!

This brings us neatly onto another very important point. If there are several applications running that boast *ARexx* ports, how does *ARexx* know which application it should talk to? Well, the answer lies in a very handy little *ARexx* command called Address that allows you to form a communications link between *ARexx* and the host program. All *ARexx*-compatible applications have what is known as a port name that is used to distinguish it between other applications with *ARexx* ports. Whenever you wish to send commands to an application via *ARexx*, you simply tell *ARexx* the name of the program's port and, if successful, *ARexx* will link itself with that program and will automatically send any further commands that it does not recognise to the program for it to handle.

The best way to understand this process of

forming communication links between *ARexx* and an application is to think of a busy town. If you wanted to have a chat to someone on the other side of town, you wouldn't just pick up the phone and start talking in the hope that the person you wanted to talk to is on the other end of the line. No indeed. What you would do is to dial the number of that person and those nice people at the BT telephone exchange will put you through. If you think of a program's port name as its telephone number, then you won't go far wrong. Don't worry too much about the technicalities of how *ARexx* does this – we'll be covering this in quite some depth in a later issue.

RUNNING AREXX

If our look at *ARexx* has whetted your appetite for more, you're probably asking yourself how you can lay your hands on this wondrous piece of software. If you're lucky enough to own an Amiga that is running Workbench 2.04 or better, then you'll be pleased to learn that you already own it! Hidden away on your Workbench disk are all the files necessary to get *ARexx* up and running. Before you can start coding *ARexx* scripts, however, you need to install the *ARexx* 'server' program. Don't worry, this isn't as complicated as it sounds.

Hidden away in the system drawer on your Workbench 2.0, 2.1 or 3.0 disk is a program called *RexxMast* that, when run, installs the *ARexx* system server into the Amiga's memory. You'll need to double click on this icon every time you reboot your Amiga, but you can make life considerably easier by transferring it into the 'WBStartUp' drawer on your Workbench disk. Once this has been done, the *RexxMast* program will be run every time you boot your Amiga from your Workbench disk. Don't forget to work on a back-up copy of your Workbench disk; ugly disk errors have a habit of cropping up on any disk that is even remotely important, so protect your investment by keeping your original system disks in a safe place.

Once you've copied the *RexxMast* program across, reboot your Amiga and hopefully a little window should open informing you that the Amiga is attempting to start *ARexx*. When the Amiga has stopped booting, you're ready to start coding. As I said earlier, *ARexx* is accessed through the Amiga's shell environment, so open up the system drawer on your Workbench disk, double click on the shell icon and an AmigaDOS window should pop up onto the screen. Just as an experiment, enter the following line.

```
1.> RX 'Say Hello World'
```

When you press return, the line 'HELLO WORLD' should pop up onto the screen immediately below the line you entered. Believe it or not, you've just executed for your first *ARexx* program! Not very exciting I know, but at least we know that *ARexx* is happily running on your system.

MEDIA MAGNET

ARexx can also act as a sort of mediator between two entirely separate programs eg if you had to carry out a repetitious task that involved taking data from one program, processing it with another and then passing it back to the first for further work. Although this sort of thing isn't too much bother if you're only working on a single file, try processing a whole batch of files and it can be a real bind. With *ARexx* at your side, however, tasks such as these can be automated to the point where you can leave your Amiga to get on with the job whilst you enjoy a cup of coffee in front of the TV.

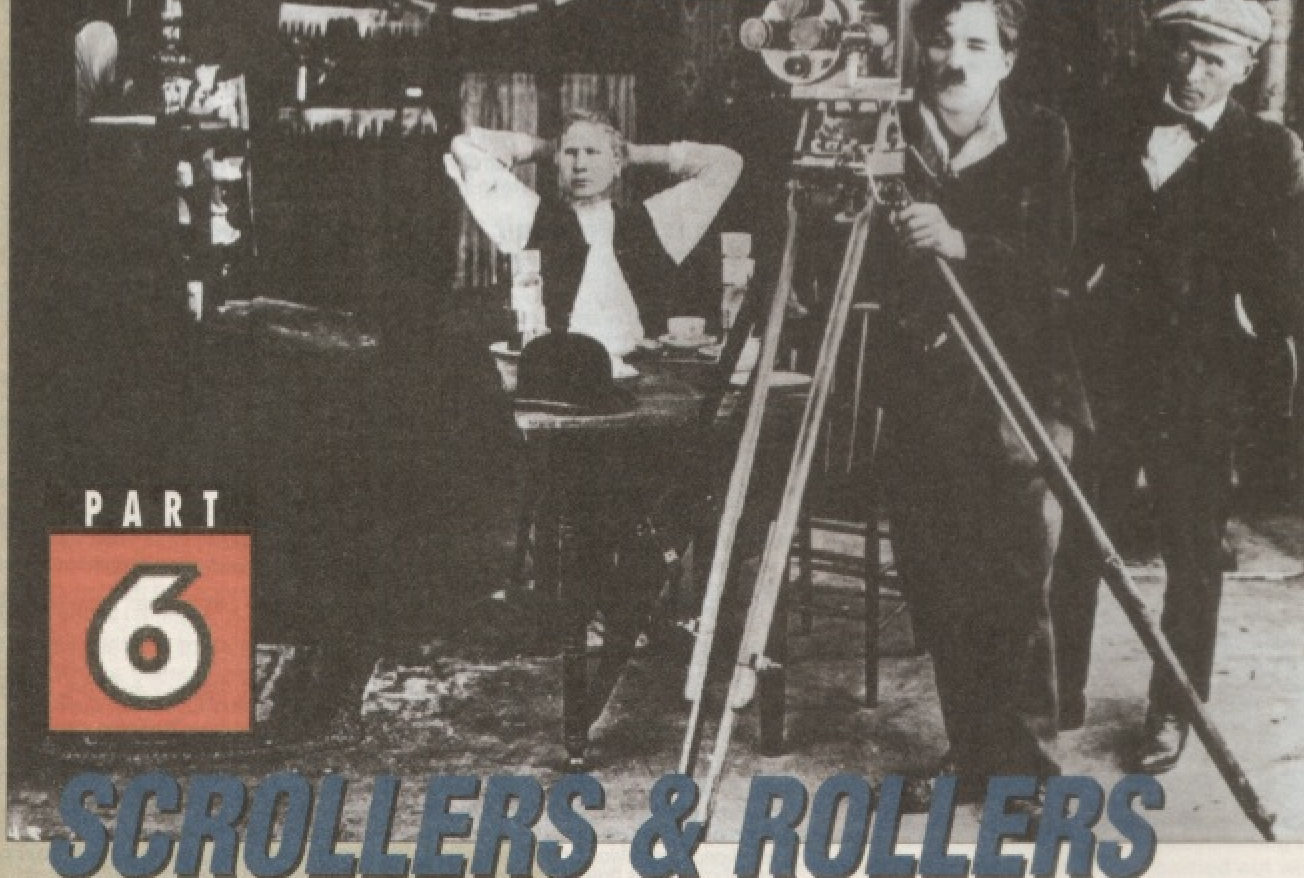
In many ways, *ARexx*'s ability to act as a mediator between two applications can be very useful if you want to extend the usefulness of your favourite program. Say, for example, you were working on a project in a multimedia package such as *AmigaVision* and you wanted to process a database. Although *AmigaVision* offers its own fairly capable database facilities, you could instantly give *AmigaVision* the same sort of database power as a dedicated program like *SuperBase Professional*. How? Simple – you simply use *ARexx* to get *SuperBase* running in the background to work under the control of AmigaVision! Whenever your multimedia project needs to process a database, it simply passes control to *SuperBase*. Good eh!

Using *ARexx* with just about any program that supports it can considerably enhance both the performance and power of such programs. Take Gold Disk's *HyperBook*, for example – without *ARexx*, *HyperBook* is virtually crippled. Write a couple of *ARexx* scripts that take advantage of *HyperBook*'s built-in *ARexx* HML command set and you can create anything from a simple address book to a full-blown database. *Professional Page* is another good example – with the release of *Professional Page 3.0*, Gold Disk added what are known as 'Genies' that are essentially *ARexx* macros that allow you to perform complicated and very precise tasks simply by double clicking on the genie which you wish to execute. We'll be covering most of the programs that benefit from *ARexx* compatibility in later issues, so stay tuned. CU

NEXT MONTH

We'll be taking a more in-depth look at the *Arexx* language and demonstrating how to write programs. We'll also be getting to grips with a few simple commands.

VIDEO TITLING ON YOUR AMIGA



PART 6

SCROLLERS & ROLLERS

To most people, the height of the Video Titling art is to have a rolling title sequence. Jim Strutton gives you the low down how on how to create your own rolling sequence on your Amiga.

The film's over, the music plays softly in the background as the hero rides off into the sunset and the credits roll before your eyes. How could your little ole Amiga possibly achieve the same smooth credits scrolling effect as the big screen? Well, it can. Read on to find out more...

HURRAH FOR HOLLYWOOD

First, some history. Back in the good old days and Buster Keating films, the titles were drawn onto a roll of celluloid, which could then be placed between the camera and a back projected scene. *Figure 1* demonstrates a rough set-up of how this was achieved.

So, how can the Amiga be used to duplicate this effect?. There is a great deal of software available that offers a range of scrolling title effects. Strange as it may seem, getting letters to move slowly and smoothly is much harder than having them zip up the screen at a tidy rate. The reason for this is because the Amiga is a multitasking computer, (ie it can do more than one task at a time), so when the processor is working on other programs the scrolling motion will pause and jump. This jumping and pausing is not very desirable if you want a smooth scrolling effect. So, to stop this jumping you must run the scrolling program as a dedicated task on the Amiga, to ensure that it runs uninterrupted by any hitches or glitches.

WHAT'S ON OFFER?

One of the programs which achieves the smooth scrolling effect rather well is *sMOVIE.* Written by Martin Round of Halesowen, West Midlands this program is very handy because it can use any Amiga bitmap font.

To use *sMovie*, you start by creating a file of the words that you wish to scroll. Then you must embed some special command codes with the text that you've written. In order to put these codes in you must be able to use a text editor and you'll also need to learn the command codes that *sMOVIE* uses to select fonts, colours and effects like centring. This is a bit complicated and might make this program unsuitable for the inexperienced Amiga user.

Once you've mastered all the codes, you can then scroll the text either by moving the mouse backwards and forwards, or you can preset the scrolling speed using a command code in the text. You can also scroll text in a window within the screen using simple block graphics.

SMovie is a very capable program that I can thoroughly recommend. It should be available from any good PD library for £3.00 or from the AVPG (Amiga Video Producers Group), tel:0793 870 667.

ANYTHING ELSE?

Well, for a few pounds more than a PD disk, you can get a copy of the CLR licenceware product, imaginatively called *Video Titler* (ref number CLU01). It costs £3.50 plus p&p. Contact NBS on 0983 529594, any of the United Public Domain Distributors or a reputable PD library for a copy. This is a cheap, commercial program that should be satisfactory for basic scrolling title needs and the latest version is now written in AMOS Professional. It is well worth a look at.

If you want a few more facilities and have a bit more to spend, you should look at a program

```
¦siz LORES,320,256,0,0,0
¦oncl
Some example home video titles:-
¦lns 200,0,0
¦dly 100; delay
¦dep 2; allows any four colours on screen at one time
¦cls; clear screen
¦siz LORES,320,256,0,0,0;size screen (this is a full size PAL LO=-RES
screen.)
¦com                        With NTSC, bottom part of the display won't be
seen.
¦plt 0,6,4,4
¦plt 1,12,12,0
¦plt 2,13,13,13;  assign pallette to colours 0,1 and 2
¦fnt sapphire 14; set font
¦spc 2;              set spacing between lines
¦onc;                switch on auto-centring
¦clr;               clear the screen
¦dly 60;             delay about a second
¦col 1,0;           select text and backgound colour
The Wedding Of
¦fnt sapphire 19
¦
¦col 2,0
```

This is an example script for a title sequence from *sMovie.* The displayed text is punctuated with command statements prefixed with the '¦' character.

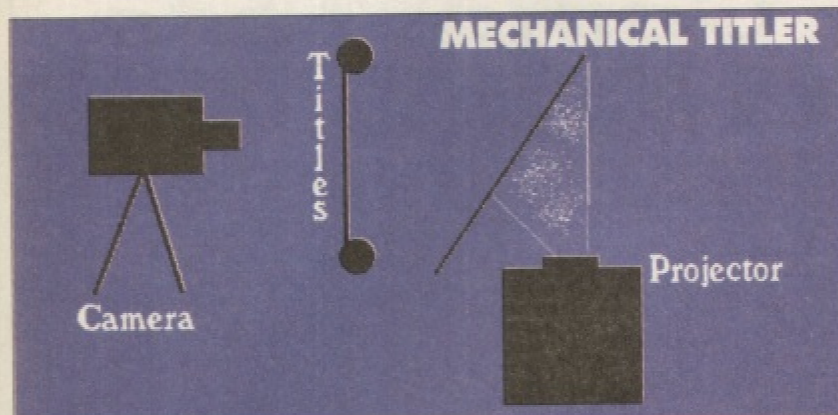


Figure 1: shows how titles were created before the advent of computers. The text on celluloid was rolled between a camera and a back projected image.

called, *The Big Alternative Scroller* (BAS) from Alternative Image, priced £40. *BAS* is a good choice for the semi-professional user or serious amateur. A couple of Wedding Videographer friends of mine swear by it. Most good Amiga dealers should stock the program or contact Alternative Image Direct on 0533 440041. New from Alternative Image, is an update of *BAS, Just Scroller II* which at £80, has even more fonts and colours that you can scroll either vertically or horizontally.

At the professional end of the market, there are only really two contenders, both of which come in two versions just to confuse you. The oldest and most widespread are *Pro Video Plus* and *Pro Video Post.* Both versions have full scrolling capabilities, the difference being that *Pro Video Post* has DVEs or Digital Video Effects as an extra. Once you run either version of the package, all your hard-earned knowledge about using an Amiga vanishes out the window. User friendly is not a description that comes easily to mind! *Pro Video* operates on function keys and a few keyboard commands alone, no mouse and WIMP here. It kills the whole of Workbench as it loads and takes over the whole machine. For it to run effectively, you'll need a minimum of 1Mb Chip RAM and a further 2Mb of Fast RAM, and an accelerator if possible. So, it can cost a lot of dosh to run. Where it does score, though, is in the quality of the special fonts supplied with the package. They simply ooze quality. The scroll is also very smooth, even when slowed to a crawl which normally stumps other packages. *Pro Video Plus* will set you back about £140 with *Pro Video Post* costing about £20 more. Contact Hobbyte on 0727 856005 for details.

The second professional quality package is *Broadcast Titler II*. This is a far more refined package than *Pro Video*. The standard fonts, quality of scroll and features are every bit as good, but it has far more polish. Both will shift a tidy load, but one does it with more panache, comfort and convenience. *Broadcast Titler II* comes in either a standard Amiga version or the new enhanced AGA version supporting HiRes video modes for true broadcast quality.

Again, you'll need a lot of memory and some form of accelerator, or an Amiga 4000 could be a good idea. But, at £300 for the AGA and £170 for the standard version, you should expect something special. Apart from the fonts supplied in the standard version you can buy additional font packs and a Font Enhancer package to create your own. This alone should make it the choice for the professional – which explains why I still use *Pro Video Plus* and *Post*! Contact Trilogic on 0274 691115 for details.

There are many other scrolling packages that I have not mentioned. If you want you can create a good scrolling effect with *Deluxe Paint , Deluxe Video III, Scala, Video Studio 3* and a host of others. However, I have concentrated on the software that, in my opinion, offers the best scrolling functions.

None of these packages will be of any use without a GenLock so some offerings from Lola Electronics (tel: 0858 880182) could be of interest. They have a new version of the MiniGen genLock on offer. At only £49.95 this is not a state-of-the-art broadcast device, but offers basic facilities to key Amiga graphics over an incoming composite video signal. No faders or sophisticated mode switches here, just a simple toggle switch to flip between Amiga Graphics, Video or Mixed. Also on offer is a plug-in card GenLock for the CDTV for £79.00 and the MiniPro L1000 GenLock with quite a good feature list for £149.95. Also, for only £29 .95, Lola offers the L520 TV adapter, which is a replacement modulator for the A500 series Amiga, should your original suffer an untimely death. Note that prices include VAT, postage and packing.

Finally, on the April 93 edition of CU AMIGA, we gave you a copy of AMOS. Well, what about using that as a tool to create a video sequence? Read next month to find out how. CU

NEXT MONTH

Next month Jim Strutton explains how some simple routines will allow you to scroll some text and to create subtitles or captions for your video productions. These are all extracts from a whole range of tools that have been developed with AMOS to produce everything from Karaoke Videos to the infamous scrolling retail store displays.

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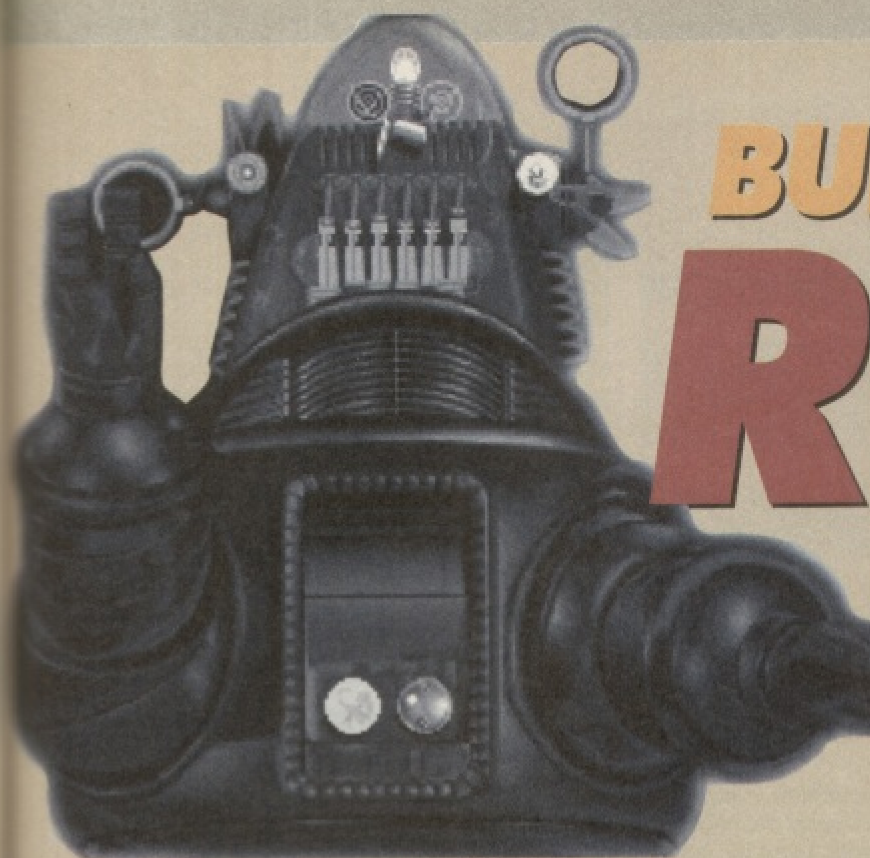
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BUILD YOUR OWN ROBOT

PART 4

This month, John Kennedy describes the specially-written programming language which will bring your robot to life.

Building a robot is all very well, but how do you get it to move? So far, the only way we have been able to communicate with the input/output port has been through some Comms software. This has been a painless process because the port is connected to the serial port, and so it is easy to type in commands directly.

However, controlling the hardware in this way is far from perfect. It's impossible to get the robot to make decisions itself or to react to inputs from touch or light sensors. In fact, it's about as much of a robot as a remote control car.

To provide some semblance of artificial intelligence, we need a decent programming language. We could use the *ARexx* scripting language which comes with all Amigas, but I'd like to show you another language which I've always had a soft spot for – FORTH.

FORTH was written in about 1970 by a fellow called Charles Moore. Chuck needed a language which could be developed quickly in, used little memory and would control his radio telescope. What he really wanted was a fourth generation language, but the operating system he was using only allowed five letter names and so to get around this problem he created FORTH.

Being so compact, FORTH was the ideal choice for memory-limited computers and compared to the most popular language in those days (*Sinclair BASIC*), it was ludicrously fast.

Real 3D version 2 has been enhanced quite recently to feature a built-in FORTH system, so it seems we'll never be able to shake off this simple yet most powerful language ever designed.

FORTH PRINCIPLES

So what's the main thinking behind this little gem of a language? Well, FORTH operates mainly by storing information in stacks. (A stack is an area of memory which is used to temporarily store information.) Every number that appears in a FORTH program is immediately stacked, even entering '20' at the keyboard will place a number on the stack.

This makes passing data to functions quite simple. For example, the FORTH word for printing a number is a full-stop, so if you were to enter the line:

```
20 .
```

you would see the number displayed on screen. The dot actually removes a number from the stack and performs an operation with it. Likewise, the FORTH word for addition, +, takes two numbers off the stack, adds them together and then stacks the sum. So, the line:

```
1 2 + .
```

will print 3 on the screen.

The FORTH system which came on the coverdisk contains about 80 words and the more common ones are shown in the table. You can get a list of them by using the FORTH word VLIST, which stands for 'vocabulary list'.

The words supplied offer a range of arithmetic and logic operations, decision and loop control, external hardware control, simple graphics and mouse and joystick support.

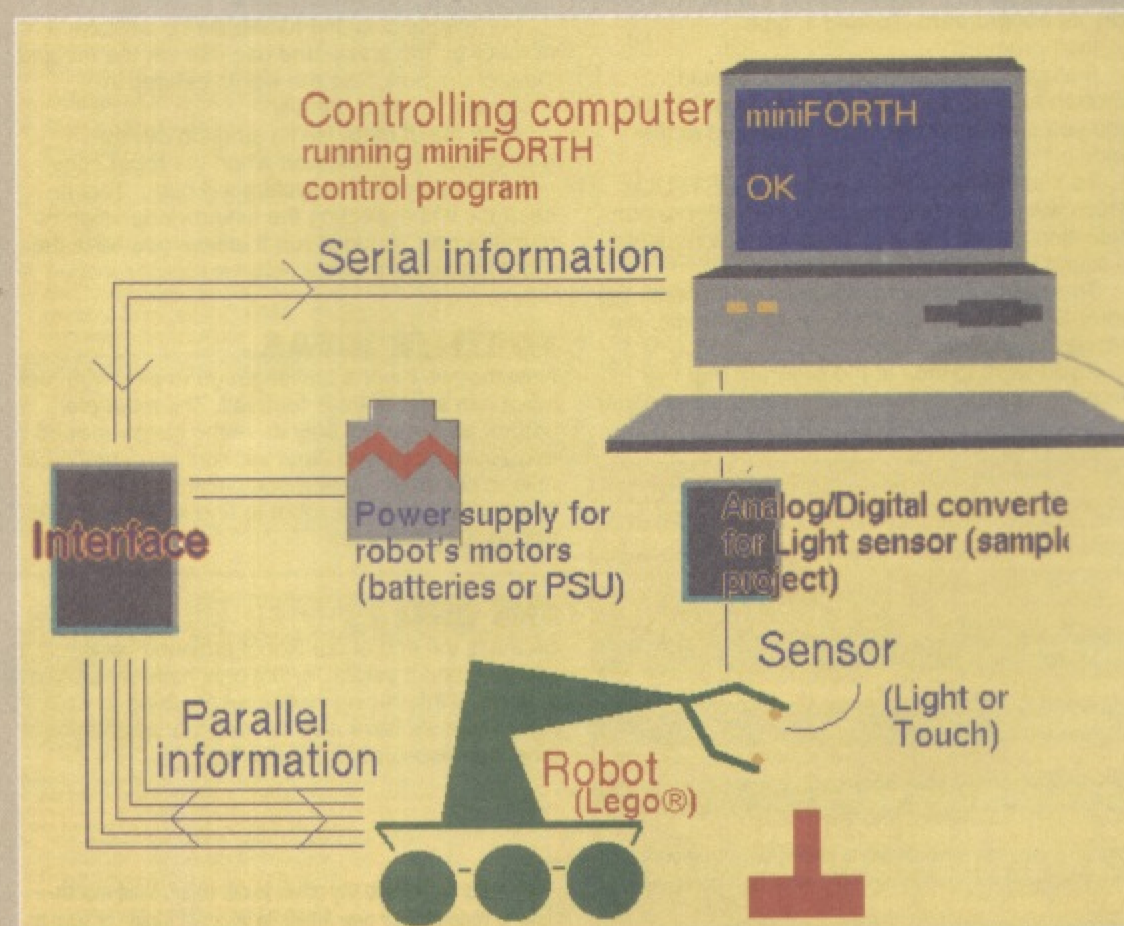
What a little belter of a program, eh? Well, I've kindly compiled a language called *MiniForth* which is on this month's coverdisk and it contains the main elements of the FORTH.

USING MINIFORTH

The best way to learn how to use a programming language is to use it, so here's how to get *miniFORTH* working.

First of all, boot your Amiga from your normal Workbench disk. When all the clunking and whirring stops, open a SHELL window. Now pop out your Workbench disk and insert the coverdisk.

We need to make the current directory the directory on the disk which contains the FORTH



An updated version of our original system. Now we need a power supply for the robot, a controlling language and an A/D converter for vision (the sampler project – see past issues).

»

MINIFORTH ROBOT CONTROL WORDS

MINIFORTH WORD	ACTION	FIRST NUMBER ON STACK	SECOND NUMBER ON STACK
ReadByte	Put input value on stack	–	–
WriteByte	Put stack value on output port	Output value xxx e.g. 123	–
ConfigureByte	Configure all port lines	Output value xxx e.g. 123 bit=0=output bit=1=input	–
ReadBit	Put one line state on stack	Line to read 0 -> 7	–
WriteBit	Set one line stack on port	Line to write 0 -> 7	0=OFF 1=ON
ConfigureBit	Configure lines individually	Line to set 0 -> 7	0=output 1=input

program and its example files, so enter the following at the prompt:

```
cd df0:miniFORTH (and return)
```

When you have got the current directory set, start the FORTH system by typing:

```
miniforth (and return again
```

You should be greeted by a small welcome message, and 'OK'. The 'OK' is FORTH's way of telling you that everything is hunky-dory. It will say 'OK' every time it recognises a word. For now, enter:

```
VLIST (and return yet again)
```

You should now see a rather large collection of meaningless (well, for the moment anyway) text pop up on the screen. And, of course, the word 'OK'.

Now for some mind-boggling arithmetic – first of all, try entering:

```
1 2 + .
```

This should display 3. Similarly, 10 5 * . should display 50. For some tricky subtraction, you will need to understand the way in which the stack works, or you'll get your sums all wrong.

The FORTH stack is a 'first in – last out' stack. That means if I stacked the numbers 1, 2 and 3 in that order, when I popped them off I would get 3, 2 and 1. So in order to subtract 1 from 100, you need to enter:

```
100 1 - .
And to divide 100 by 10, you enter:
100 10 / .
```

You should note that *miniFORTH* is an integer based language, so floating point fractions aren't allowed at this moment in time. The words 1+, 1-, 2+ and 2- are short cut words for the commonly-met situation where a number needs to be changed quickly.

```
100 2+ .
```

will display 102, and is exactly the same (but microscopically faster) than 100 2 + , which makes use of '+'.

DIY WORDS

A FORTH program is a list of words, with each word making use of words previously defined. Although *miniFORTH* comes with about 80 words of its own, you'll probably want to write some new ones. Creating words is easy, and makes use of a colon (':') and a semi-colon (';'). For example, here's a FORTH definition of a word which does some arithmetic.

```
: SUMS
  1 1 +
. CR
  1 2 +
. CR
  1 3 +
. CR
;
```

The FORTH word CR tells the computer to take a new-line: it stands for carriage return. The word SUMS has already been entered for you, and is stored on the coverdisk in the same directory as the program. To load it, type

```
load program1
```

If all goes well, the familiar 'OK' should appear. Now do a vocabulary list (enter VLIST) and you should notice a new word right at the end.

To find out more about it, enter VLISTFULL which will list its contents. If should look like our definition above, but with some more comments in round brackets.

To execute this word, simply type its name, so enter SUMS at the keyboard. As if by magic, the answers should appear.

If you want to look at the program that I've entered, because it is an ASCII file you can either display it with TYPE from the CLI, or by loading it into any word processor. You'll notice a lot of comments between round brackets – these are ignored by the FORTH system, but they are there for your benefit. Check out all the other example programs for helpful information about what is going on!

The FORTH word LOAD takes a text file stored on disk, and treats the file as though it were entered at the keyboard. So, in order to create your own words you will need to use a text editor to create a file, and then use *miniFORTH* to LOAD it in.

For even more help, check through the other example programs. *Program3* is full of details on how to make use of variables and constants in *miniFORTH* (fun!) and *Program4* demonstrates the graphical features of *miniFORTH* (rather slowly, I'm afraid). It also shows how to make a program autostart when you load it (type END to leave *miniFORTH*).

Program5 is a primitive paint program (click the mouse button to stop it). *Program6* is the robot control program, however, before you can use it there are still a few details that need to be dealt with.

ROBOTS ARE GO

The input/output port of our robot expects serial data at a baud rate of 1,200 baud maximum. In order to communicate with the robot, the Amiga must be talking at the right speed.

To set the speed, find the Prefs drawer on your Workbench and find the serial tool inside it. When you run this program, you can select the speed that you wish the serial port to run at, so make sure it's set at 1200. After you hit save you can be sure that when you run *miniFORTH* it will talk to the robot at the right speed.

There are six words which communicate with the input/output port, and they correspond exactly to the six control words which are detailed in the input/output port's instructions.

For example, CONFIGUREBYTE will take a number off the stack, and use it to set the Ins and Outs of the port. See the words defined in *Program6* for more details.

Note that if there isn't a working device attached to the serial port when the robot commands are given, the system will hang. This is because it is expecting the acknowledge signals from the port, so don't run it unless you have the robot hardware present.

FURTHER IDEAS

Now that we have a full language to play with, our robot can start to think for itself. The example control program will only drive the buggy around in a square, but with input sensors you should be able to construct quite a complicated system, which will enable the robot to find its way around mazes and obstacles.

THE END

So that's the end of our Robot project. I hope you've found it useful, for not only have we looked at ways of interfacing just about anything to your Amiga, but we have also created a programming language especially to do it with. CU

WORD DEFINITIONS

Here is a list of some of the words supplied with the *miniFORTH* system. For more details please check out the example programs. If you are keen to use this language, I recommend you get hold of a good library book on the subject.

FORTH WORD	NAME	DESCRIPTION
.	Dot	Take a number off the stack and display it.
."	DotQuote	Display text. Text will have been previously entered between square brackets.
VLIST	Vocabulary list	List all words currently in dictionary.
VLISTFULL	Full list	List all user-defined words in detail.
+,-,*,/	Arithmetic operations	Remove numbers from stack and put the answer back .
=	Equals	Take two numbers off the stack. If they are equal, stack a 1 else a 0.
IF/THEN	If clause	Take a number off the stack. If it is 1, perform the words between the IF and the ELSE.
DO/LOOP	Loop	Take two numbers off the stack, and repeat the contents of the loop.
END	End	Leave the miniFORTH system.
LOAD <filename>	Load	Load new words from a disk file.

NEXT MONTH

Well, folks we have to say adieu to our robot. Next month – how to connect your new Amiga to your old Amiga or save a fortune and use a CDTV as a CD-ROM drive.

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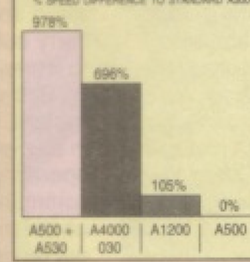
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BACK TO BASIC WITH BLITZ BASIC 2

PART 1



BLITZ BASIC

In the first of a regular series, Jason Holborn unveils the wonders of Acid Software's new *BlitzBasic 2*.

During the few weeks that Acid Software's *BlitzBasic 2* has been flying off the shelves (faster than hot cakes?), it has already earnt itself a very respectable following. Users more accustomed to the joys of AMOS and other high-end languages have suddenly been given the power to create arcade games and demos that aren't held back by the performance limitations of the other languages. Due to its impressive turn of speed, *Blitz* is the first language that can truly claim to be capable of handling games of commercial quality. *BlitzBasic 2* may not offer anything that isn't already available under AMOS, but it's the language's 'seat of your pants' performance that has made it such a success.

Anyone who has actually bought *Blitz* will have probably already realised that there's one big spanner in the *Blitz*'s works – the quality of its documentation. Mark Sibly (the programmer of *BlitzBasic 2*) has done a fine job of making *Blitz* a formidable programming tool but the manuals bundled with the package leave a lot to be desired. *Blitz* isn't the sort of language that you can pick up and use almost immediately either – even advanced programmers who breezed through AMOS have found *Blitz* hard going.

Over the next few months or so we'll be guiding you slowly through the *BlitzBasic* instruction set showing you how to achieve amazing results without having to wade through the *Blitz* manual. We'll be covering such effects as hardware scrolling, parallax scrolling, blitter objects and so much more besides. Indeed, everything you need to know to write high speed arcade games in *BlitzBasic*.

DEPECHE MODE

BlitzBasic offers the programmer two different modes of working. The first, Amiga mode, allows you to write programs that are what the techies call 'operating system friendly'. That is, they operate through the Amiga's operating system routines. The Amiga operating system has had its fair share of bad publicity but ask any programmer who really knows how to get the most from it and they'll tell you just how powerful and how easy to use it really is. By programming these ROM-based routines through *BlitzBasic*, you can create programs that take full advantage of the marvellous screen, gadget, window and menu creation routines that the Amiga's operating system has to offer. What's more, *Blitz* doesn't require you to spend days just setting up the data structures that these routines require – just a couple of simple commands are all that are needed to get your Intuition-friendly programs up and running.

Over the next few months or so, we won't be concentrating on this aspect of *BlitzBasic*, however. *Blitz* may be a great tool for programming applications like databases, spreadsheets and word processors etc, but what really makes *Blitz* special is the fact that, just like Europress' AMOS, it gives you the chance to program the Amiga's custom chips directly. This Blitz mode is possibly *BlitzBasic*'s greatest asset. In order to program the hardware directly, however, you need to add the command BLITZ to the start of your program. This instruction puts the Amiga operating system to sleep and from here on your programs are free to carry out all sorts of 'metal bashing' without having to worry about other tasks that may be running.

Blitz mode doesn't kill off the Amiga's operating system, however, so it won't damage your Amiga in any way. You can easily wake up the Amiga's operating system simply by calling the AMIGA command. *Blitz* also offers an additional QAMIGA command that switches back to Amiga mode without destroying any displays you may have created in Blitz mode.

BITMAP BROTHERS

Let's start our *BlitzBasic* tutorial with a look at how *Blitz* handles screens or, as they are known in *Blitz* terms, slices. I'm sure that even the greenest beginners realise just how powerful the Amiga's screen handling hardware really is and *Blitz* allows you to take full advantage of this video wizardry. As you will already know, the Amiga allows you to not only create screens in a number of different resolutions, but you can also create displays on your monitor screen that consist of several screens stacked one on top of the other, each of which can have its own unique colour palette and view mode setting. You could, for example, split the display into two completely separate screens, one of which is high resolution and the other low resolution.

Blitz screen slices aren't just restricted to static screen displays, however. Thanks to the wonders of the Amiga's video hardware, *Blitz* allows you to create smooth scrolling slices, dual playfield slices and (for flicker-free animations) double buffered slices. Contrary to popular belief, Acid haven't yet managed to make *Blitz* mode AGA compatible so you're restricted to a maximum of 32 colours in low resolution and sixteen colours in high resolution. Acid claim that a fully AGA friendly version of *Blitz* will be available soon but until the update arrives, *Blitz* programmers cannot take advantage of the new VGA-style 256 colour and 262,144 colour HAM8 screen modes.



Enter this month's simple demons… tion listing and see something … on your Amiga's display. It may … extremely exciting, but it does at … demonstrate the speed of *BlitzBa…*

Opening a Blitz mode screen is somewhat more involved under *Blitz* than it is under AMOS. Unlike AMOS, you cannot simply issue a single command and expect *Blitz* to automatically set everything up for you. All screens require basically two things in order for them to be usable – a slice and a bitmap – both of which must be created separately. A bitmap is the area of memory that holds the actual screen image data that your program draws into. Without a bitmap, a *Blitz* slice will not be able to display anything. It's a bit like looking through a window – the window itself is our slice and the countryside that you can see through that window is the bitmap. All graphic operations are performed on the bitmap and the slice simply displays the contents of the bitmap on your Amiga's monitor. Without one or the other, you'll see absolutely nothing!

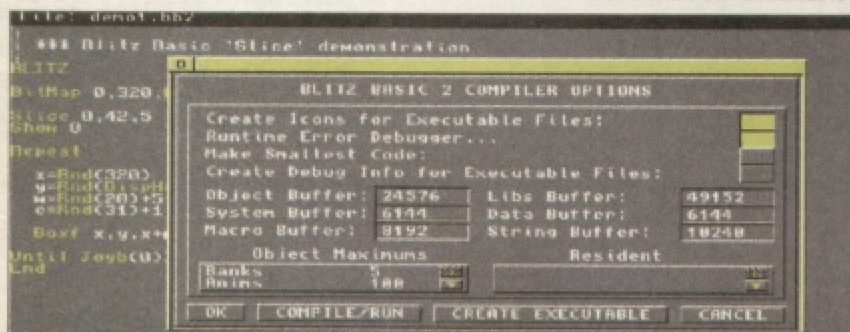
Before you create your slice, you need to define the bitmap using the imaginatively named Bitmap command. Let's take a look at the bitmap command and its parameters:

Bitmap BMAPNUM, WIDTH, HEIGHT, DEPTH

BMAPNUM: The BMAPNUM parameter is a number that is used as an identifier for the bitmap that you are creating. Each and every bitmap you create must have its own unique identifier.

WIDTH: The WIDTH parameter tells *Blitz* how many pixels across the bitmap is in size. A standard low resolution screen will be 320 pixels across whilst a medium or high resolution screen will be 640 pixels across. As we shall see when we move onto hardware scrolling, however, there's no reason whatsoever why you can't create bitmaps that are much larger than the slice that will display them. Although only an area of the bitmap that is the same size as its slice will be displayed on your monitor, smooth scrolling effects can be created by altering the area of the bitmap that is displayed.

HEIGHT: Not surprisingly, the HEIGHT parameter tells *Blitz* how many pixels there are vertically in the bitmap. The size of this parameter is entirely up to you. However, if you wish to create a full screen-sized bitmap, then this should be set to 200 for an NTSC machine and 256 for a PAL machine. If the slice is interlaced



Blitz's main editor screen. Once you've entered a program, it can be turned into super fast machine code by clicking on 'Compile' from the pull-down menus.

then simply double these values.

DEPTH: The DEPTH parameter defines how many bitplanes are assigned to your bitmap. As any experienced Amiga programmer will tell you, the number of bitplanes that you use directly controls how many colours the bitmap can handle. A single bitplane bitmap, for example, can display just two colours. Add another bitplane and the number of colours doubles. Add another and it doubles again until you reach a maximum number of six bitplanes for a low resolution screen and four bitplanes for medium and high resolution screens. If you are working in low resolution, then try to restrict the number of bitplanes to a maximum of five – the sixth bitplane is only needed if you want to create a HAM mode screen.

SLICED TEA

Once you've created your bitmap, you can then move on to create your slice which will be used to display the contents of your bitmap. The *Blitz* command to create a slice is (surprise) 'slice'. *Blitz* offers two different forms of the 'slice' command – a simple form which creates full screen slices and a more advanced form that gives you far greater control over the position, size and display format of your slice. Check out the box on the right-hand side of this page for a breakdown of the more complex form of the slice command but, for now, let's look at the simpler form of this powerful command:

Slice SNUMBER, YPOS, MODE

SNUMBER: Just like the Bitmap command, each and every slice that you create must have its own unique slice number that is used as an identifier for that slice. If you want another command to have access to your slice, then you simply point it to your slice using this number.

YPOS: The YPOS parameter vertically positions the slice on the Amiga's display. Just like AMOS' Screen Display command, the YPOS parameter expects to be fed a value which is known as a hardware co-ordinate. As the Amiga allows screens to be positioned anywhere on the display, a value of '42' will place your slice at the very top of a normal monitor. Increasing this value will cause the slice to be positioned further down the display by a specified number of scanlines.

MODE: The MODE parameter tells *Blitz* two important facts about your slice – the number of bitplanes that it can display and its 'viewmode'. These two facts are combined to form a number that *Blitz* translates. If you simply pass the slice command the number of bitplanes that you wish the slice to handle (up to a maximum of six), *Blitz* will automatically assume that you want to create a low resolution slice. If, on the other hand, you add a value of eight to the number of bitplanes, *Blitz* will create a medium resolution slice. Say, for example, you wanted to create an eight colour medium resolution screen – the mode value for this slice would be eleven (that's a mode value of eight plus three for the number of bitplanes). Simple, eh!

SLICE OF THE ACTION

Now that we've covered the two commands required to set up a *Blitz* screen, let's take a look at a very simple listing that demonstrates these concepts in action. Load up your copy of *BlitzBasic 2* and enter the following lines of code.

```
; *** Blitz Basic Screens demonstration
BLITZ
BitMap 0,320,DispHeight,5
Slice 0,42,5
Show 0
Repeat
   x=Rnd(320)
   y=Rnd(DispHeight)
   w=Rnd(20)+5
   c=Rnd(31)+1
   Boxf x,y,x+w,y+w,c
Until Joyb(0)>0
End
```

Once you've typed in this listing, select the 'Compile/Run' option from the *Blitz*Ted Editor 'Compiler' pull-down menu and after a second or so your screen should fill with thousands of pretty filled boxes. There's nothing too complex about this listing – all it does it to create a bitmap that is 320 pixels across and 256 (for a PAL Amiga) or 200 (for an NTSC Amiga) pixels down.

You're probably wondering what the 'DispHeight' command actually does. Well, it too is pretty simple. DispHeight is simply a *Blitz* function that returns the maximum size of display that your Amiga can handle. If you're using an NTSC Amiga, the value returned will be 200. On a PAL Amiga, however, DispHeight will return a value of 256. This can be quite a handy function for writing programs that work correctly on both NTSC and PAL Amigas.

Once the bitmap has been defined, the program then creates a slice to display it that is positioned at a 'Y' hardware co-ordinate of '42'. This co-ordinate will place the slice at the very top of your monitor screen. Both the slice and the bitmap are set to handle a maximum of five bitplanes which gives us a maximum of 32 available colour registers.

The listing then enters a simple 'Repeat...Until' loop that continuously performs the code within the loop until the user (that's you) presses the left mouse button (indicated by a value greater than zero being returned by the 'Joyb(0)' function. Within the loop is a section of code that generates four random values and then uses these values to draw a filled box using Blitz' Blitter-based Boxf' command. The Boxf command needs five parameters – the 'X' and 'Y' co-ordinates of the top left hand corner of the box, the 'X' and 'Y' co-ordinates of the opposite corner of the box and then the number of the colour that the box is to be drawn in. CU



Acid's '*Zombie Apocalypse*' is a fine example of what is possible in *Blitz* mode.

NEXT MONTH!

If our look at *BlitzBasic* has whetted your appetite for more, then don't miss next month's issue. We'll be taking our look at *Blitz* slices and bitmaps one step further and I'll even show you how you can use oversized bitmaps to create high speed smooth scrolling effects.

THE SLICE COMMAND

We've already looked at the simpler form of the 'slice' command but there's another form of the command that gives far more control over the position, size and format of your *Blitz* slices. Here it is in all its *Blitz* glory:

Slice SNUMBER, YPOS, W, H, MODE, DP, SPR, CL, W1, W2

SNUMBER: Just like the simpler form of the Slice command, the slice number parameter is a unique identifier value that is used as a pointer to the slice that you've created.

YPOS: The 'YPOS' parameter is the same as it is in the simpler form of the command too. It simply controls the vertical position of the screen expressed as a hardware co-ordinate. A value of '42' will place your slice at the top of your monitor display.

W: The 'W' parameter defines the horizontal width of your slice. For a standard low resolution screen, this value should be set to 320.

H: Not surprisingly, the 'H' parameter defines the vertical size of your slice. If you want your slice to open to the correct full screen size on both PAL and NTSC Amigas, use the value returned by the 'DispHeight' function.

MODE: The 'MODE' parameter is slightly different with this form of the Slice command. It controls the creation of the Slice's 'copper list'. The value you pass is what is known as a 'bitpattern' - that is, each individual 'bit' controls a particular aspect of the slice's viewmode. When you set a bit, the function associated with that bit is effectively turned on.

Here's a quick rundown of the functions associated with each bit (note that not all the bits are used).

Bit	Function
0	1=HiRes Slice 0=LowRes slice
1	Turn on Dual playfield mode
2	HAM mode
3	Allow smooth horizontal scrolling
4	Create 2 line 'blank' between slices
7	Create playfield 1 modula value
8	Create playfield 2 modula value (for dual playfield slices)
10	Create bitmap fetch offsets (DDFSTRT and DDFSTOP)
12	Create viewmode offsets (DIWSTRT and DIWSTOP)
13	Create bitplane pointer 2 (BPLCON2)
14	Create bitplane pointer 1 (BPLCON1)
15	Create bitplane pointer 0 (BPLCON0)

Unless you've read your *Hardware Reference Manual* from cover to cover, the meanings of these individual settings are probably a little vague. Here's a couple of sample MODE settings.

$FFF8	Define standard low resolution 6 bitplane slice
$FFF9	High resolution 4 bitplane slice
$FFFA	Low resolution, dual playfield 6 bitplane slice
$FFFB	High resolution, 4 bitplane dual playfield slice
$FFFC	Low resolution HAM slice

DP: The 'DP' slice defines the 'depth' of your slice in terms of the number of bitplanes it can handle.

SPR: By default, slices cannot handle hardware sprites. By telling *Blitz* how many sprite 'channels' (between 1 and 8) that your slice can handle, sprites can be used.

CL: Even if you've set up your slice with five bitplanes (giving a maximum of 32 colours), you still need to tell *Blitz* how many palette 'entries' your slice should be allocated. For a five bitplane screen, this should be set to 32.

W1/W2: The 'W1' and 'W2' parameters define the width of the bitmap that your slice will be capable of displaying. This makes it possible to use oversized bitmaps for smooth hardware scrolling. If you've defined a 'dual playfield' slice, the 'W1' holds the width of playfield 0 and 'W2' holds the width of playfield 1. For non-dual playfield displays, however, both parameters should be set to the same value.



Blitz's ability to handle Intuition screens and gadgets is one area where it scores over AMOS.

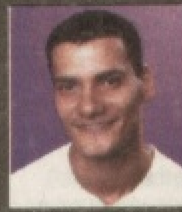


This month, I'm happy to be joined by John 'Megabrain' Kennedy. John is just finishing his electronics degree so we can look forward to some real insider info in the future. Anyway, on with this month's batch of questions...

HERE THEY ARE FOLKS – THE Q&A TEAM



JOHN KENNEDY
He's such a nice bloke, our John, and clever with it – just don't ask him about printers (or kites).



MATT BROOMFIELD
What can we say about Matt? He's pretty good with printers – just don't ask him about John (or kites).

MIPS AND VIDEO



I want to upgrade from an A500+ to one of the new 32-bit machines and I would like some advice as to which one I should pick because, after examining my finances, I feel that could stretch to an Amiga 4000/040 and 1960 monitor. Also, please could you answer the following queries:

1. Most performance tables I've seen put an A1200 with a MBX1200A board not far behind a 4000/40, leaving a 4000/30 in its wake. So, what are the MIPS ratings of an A4000/40, an A4000/30 and an A1200 with MBX1200A 50MHz and 2Mb of Fast RAM?

2. Is the A4000/040 fitted with an economy version of the 68040? How about the A4000/030?

3. Could a mono output be fitted to the A4000 as I have a video back-up system?

4. Is there likely to be a DSP add-on and for which machine will it be for?

5. Does the A1200 have a battery-backed clock, or is there one on the MBX1200?

6. Which are better monitors, the 1942 or the 1960 monitors?

7. How compatible is the A4000 with existing software?

8. Do any of the machines mentioned above suffer from flickering displays?

9. Are there any other machine options that I am unaware of?

Nikk O'Neill, Bolton.

I always knew being in the masons had advantages, but I never thought they would stretch to buying A4000s. Anyway, here are the answers to your questions:

1. MIPS (short for Millions of Instructions Per Second) readings tend to vary from test to test, but our experiments show the A4000/040 runs at about 20MIPS, the A4000/030 at 4-5MIPS and the MBX1200 at about 6-8MIPS.

2. The A4000/040 has a full 68040 (with FPU and MMU). The A4000/030 has the EC68030 (No MMU). At the moment, there is no way to upgrade an A4000/030 to either a full 68030 or a 68040, although GVP are rumoured to be working on a 33MHz 68040 card. Good news though, both Software Demon and Almathera are about to launch 50MHz 68030 cards with MMUs and FPUs as standard.

3. A true mono video signal is not available, but a single colour and some syncing signals from the standard 23-way video connector might suffice. Failing that, you will need to buy a modulator (you know, the funny little beige box that came with the A500). These can be bought from Lola Electronics on 0858 880182 for £29.95. The composite video signal should suit your purpose.

4. Commodore stated that the Digital Signal Processor will only be available initially for 'high end' machines. My guess is that it won't be available for the A1200 for quite some time. I'd also suggest that holding your breath for an A4000 version could be dangerous.

5. The A1200 does not have a real time clock as standard, and neither does the M1230XA we reviewed. However, other plug-in clock modules are available which use the second set of pins most A1200s have.

6. They are both different. The 1960 is a true multisync monitor and will display every possible Amiga graphics mode – albeit with an inch of unused screen in some modes. The 1942 is a dual sync monitor that displays productivity and lo-res modes, but not Euro72 or Multiscan modes. I have a 1960 and use Multiscan productivity, as I find DoublePAL to have a slight shimmering effect. Both monitors have the same dot pitch, but the 1942 has built-in stereo sound, which is very handy for games.

7. The A4000 is very compatible with existing software. By disabling the processor caches and AGA chipsets after boot-up, nearly everything will work fine.

8. The Amiga can make any monitor flicker if it wants to, but the A1200 and A4000 can use a special de-interlacing trick (DoublePAL mode) to provide flicker-free screens with a suitable monitor (e.g. 1940, 1942, 1960).

9. You've covered all the options available, with the exception of A3000s (which feature full 68030s, SCSI interfaces and flicker-fixers) and A2000s fitted with accelerator cards. Because these machines are no longer manufactured, you can pick them up quite cheaply.

HARD DRIVIN'



I have recently bought an A1200 plus IDE 8Mb hard drive from Hobbyte and have a few questions I hope you can answer:

1. If I copy Workbench to the boot partition of my hard drive by dragging the icons, will this cause any software problems later when I add some more software? I have heard that there is a Workbench install disk, but Hobbyte insist it is not required and that they don't have one.

2. I would like to upgrade with a RAM expansion or, even better still, an accelerator. I have 12 RAM chips from an IBM PC, could I use these in any presently-available accelerators, and if so which one?

3. Are there any 8 or 16 track samplers for the A1200. I have Rombo's MegaMix Master and would like a package, in the £200 range or less, which has more features and better quality.

Alan Smith, Paisley.

1. I'm very surprised that your hard drive didn't come with Workbench already installed. In an ideal world your drive would have been pre-loaded with the installation software already in place if you needed to do any more installing (which is the case with A4000s). Commodore provide installation software on a floppy disk in the Workbench set of the A4000s, so try giving them a call and asking for a copy. Dragging the icons will work, but make sure you also copy across all the files which don't have icons: C, LIBS and so on. If you don't, you will have to boot from floppy disk, which negates quite a lot of the benefits of buying a hard drive in the first place.

2. We seem to get quite a few enquiries from readers who have inherited RAM from IBM machines and want to use it in their Amigas. Unfortunately, new Amigas (A1200, A4000) and 020- or 030-based accelerators all use an internal 32-bit architecture, which the PC world is still struggling to comes to terms with. As a consequence, it is unlikely that any PC-sourced chips will work with Amiga accelerators. The RAM you need will be either 32-bit wide SIMM modules which are 72pins, single-sided, 80ns or faster, or some ZIPs. Some GVP A500 hard drives will use smaller 16bit SIMM modules, but I must admit that I've had problems using ex-PC and ex-Apple memory in my A500HD+.

3. Assuming you don't mind slightly-reduced sample rates, *OctaMed* will provide eight tracks of sound and a very powerful sequencing program. For better quality sound you'll need to use an external sound generator. Clarity 16 will playback 16-bit sound – but with a maximum of four sounds at once, and only one sound with any degree of quality. The SunRise boards are exactly what you want, but are out of your price range. Why not save up some more, or try some secondhand MIDI gear?

SLIPPED DISKS



I've owned my Amiga 500+ for 18 months now, but, two months ago, all my games suddenly developed Read/Write errors. I thought this was strange so I brought it to a computer shop to be mended. They gave it back to me and said that they had tightened some screws and cleaned it.

When I took it back it continued to say Read/Write error on every disk. I took it back, and

demanded that they fix it. When it was returned it still didn't work. They said they had tried their own games on the machine and it worked.

It was suggested to me that I don't keep my computer under the Television as it causes magnetic interference with the disk drive. I moved my computer further away from the Television but it still doesn't work.
Alex Sciberras, Wallington, Surrey.

First of all, I don't think that puting the Amiga close to a TV set will do any harm, although storing disks right on top of it, or on top of some hi-fi loudspeakers might. I keep my CDTV underneath the family TV, and have yet to have any problems with disks failing.

If the repair shop was telling the truth about all the games they tested, it sounds as though there is nothing wrong with the disk drive. However, I have my doubts as it does sounds like an alignment problem. Bring your computer back, this time ask to see them loading some games, and bring some of your own to test too.

It is possible that your computer has caught a virus – especially if you have been using pirated software (not that I'm accusing you of anything). If this is the case, your software collection could well have been destroyed and your only course of action will be to write to the games' manufacturers, as they will sometimes sell a replacement disk for a nominal fee.

FRESH BRU



Whilst editing startup sequences and checking directories I came across a file with the path 'Extras2.0:Tools/BRU'. No matter what I tried I could not get this file to work. Please could you shed some light on this mystery file by letting me know what it does?
Steve Howarth, Bradford, Yorkshire.

Since you don't have a hard drive, BRU will be very little use to you, as it is used for backing up programs to floppy disk. BRU can copy a huge number of files to disk, splitting them up and compressing them automatically.

For instructions on how to use it, type BRU-H at the CLI prompt. BRU requires a lot of memory, so type STACK 40000 before you run it or you'll get an error message or a crash.

More information can be obtained from *Mastering AmigaDOS 2, volume 1* which available from Bruce Smith Book's (Tel: 0923 894 355) . If you are interested in hard drive backup utilities, I strongly recommend Quarterback or Amiback.

MONITOR MADNESS



I have an Amiga 600 and a PC. I have been trying to get my PC's multisync monitor to work on the Amiga, but to no avail. I bought a 23/15 pin lead for the video port but the only way I can get the monitor to work is by selecting the Multisync monitor from Workbench.

The monitor is pretty worthless if it will only operate through Workbench as most games seem to be 'NoDOS' and will only boot by themselves. Can you help? I am getting more and more frustrated at having a decent bit of kit and not being able to use it properly.
L Brookes, Chippenham, Wilts.

I know exactly how you feel, after borrowing a PC monitor myself to run an A1200. If the monitor is a true multisync and not merely an SVGA (which most PCs come with), it should work with the Amiga in all video modes. Yet, if it is a SVGA-only monitor, you shouldn't be able to get any picture as the A600 doesn't support the necessary scan doubling which the A1200 does.

I can only conclude that your monitor, which, although it is a multisync, will not sync low enough to lock to the Amiga's 15KHz video and provide a stable picture.

I'm afraid I can only suggest that when you boot your Amiga you try holding down both mouse keys and pressing the space bar. Doing this will force the A600 to operate in NTSC mode, and it is just possible the screen will remain stable when playing games.

Generally, unless a monitor is advertised as working with the Amiga you should make sure you see it before handing over any money. With the AGA chipset, choosing a monitor for an Amiga has become very tricky.

THE MARK OF ZORRO



I have an Amiga 500 with extra memory and a GVP HD+. Please could you answer these questions.

1. When I loaded *SysInfo* on coverdisk 46 I looked at the SCSI option and it told me I have two Zorro II boards connected. Is this correct?

2. What can I use the port on the back of my hard drive for?

3. My Citizen Switch 24e has suddenly started missing parts of any pictures I try to print, leaving white lines. Any tips?

4. Is it possible to fit an FPU into my computer or hard drive and if I could would it speed up HAM mode in *Deluxe Paint*?

5. Would Commodore part exchange my Amiga and hard drive for an A1200?
S.J. Davies, Penarth, S.Wales.

1. GVP's excellent HD+ auto-configures as both a hard drive and a memory expansion, hence two cards. Although they are A500 peripherals and not true Zorro II cards, the Amiga cannot distinguish this fact as in operation they are identical. SysInfo is correct.

2. The port on the back of the HD+ is a full SCSI interface. You can add more SCSI compatible hard drives (look up bare drives prices in PC mags), as well as optical drives and even desktop scanners. SCSI is wonderful, although it has recently been superseded by SCSI2 which is downwardly compatible, but runs much, much faster. SCSI2 is wonderful.

3. Sounds like the Citizen's print head is broken, or it is becoming jammed. It needs a good clean (follow manufacturer's instructions) or to be replaced.

4. Your current hardware will not support an FPU (Floating Point Unit) as these are primarily designed for use with 68020s and 68030s. There is also the small point of where would you stick it? In any case, an FPU would not noticeably speed up HAM mode. A 68030 on the other hand would, as would an A1200 which has faster chip RAM as standard.

5. Commodore were offering £100 off an A1200 for an A500 during the summer, but now the price has fallen anyway. My advice is to buy the A1200 and keep the A500 and GVP. The two Amigas can be linked together via the PD program *Parnet*, so the A1200 can share the A500's hard drive.

PARTITION HORROR



I own a rather antiquated A1000, with 1Mb of RAM, printer and hard drive. The hard drive is secondhand and has five partitions. I would prefer to have them removed but am unable to do this as there is no command I know of that will succeed.

The only information I have on the drive is that it is a Xebec 20Mb Computer Services Italia. Perhaps being 60 and computer illiterate has a lot to do with my problems.
E. J Ervin, Thornhill, Southampton.

Believe me, your age definitely has nothing to do with it, your problem is genuinely tricky. Why anyone should want to create five partitions on such a small drive is beyond me, each partition eats up precious RAM, and 1Mb is little enough.

The first thing to do is back-up all your data, as re-partitioning a drive will delete the entire contents. If the previous owner had any sense, they would have given you a disk with a program such as 'hard-drive prep' which will contain partitioning options. You will need to pretend that you are installing the drive for the first time, and select one (two at the maximum) partitions.

Failing the existence of this software, contact your local PD library as there are several hard drive prepping programs available. Hopefully, they will support the SCSI device used by your drive. As a last resort, ask Commodore to send you their own hard drive software. Although designed for use on the new IDE interfaces, there is a very good chance it will work.

SHORT AND WAVIES



I own an A500 and I am very interested in short wave radio. I was wondering where I could get a CW (morse code) interface so I can finally find out what all the weird noises are about!
Scott Plumridge, Bristol.

Maplin Electronics (0702 552911) stock a wide range of short wave listening gear, including an incredible device that will display text on its own tiny LCD screen. Most of these gadgets require an external receiver that can tune into the SW bands, but, again, Maplins can supply them. Look out for their catalogue in your local newsagents or telephone the above number and ask for one, they cost £2.95 and are worth every penny.

STARTUP PROPERLY



I own an A500+ and I am familiar with most of the basic AmigaDOS commands, but I am sick to death of copying and assigning the C directory from my Workbench disk to RAM. How can I edit my startup-sequence so if it boots up, it asks if I want to copy the C directory to RAM?
Chris McCarthy, Winsford, Cheshire.

Since you have an Amiga 500+ you have Workbench 2, so it is best to play around with user-startup rather than startup sequence. Editing the file is easy: just open a CLI and type ed s:user-startup

Getting AmigaDOS to ask questions is »

» slightly trickier, but it can be done. Before you do it, think carefully, it can get very irritating!

Here is an AmigaDOS script that will ask you if you want to copy the directory, and do it if necessary.

```
ask 'Shall I copy files to RAM?(y/n)'
   if warn
echo 'Copying files...' copy c: ram:c
   all quiet assign c: ram:c
endif
   echo 'ok... continuing.'
```

The AmigaDOS 'ask' command is specially designed for just such a purpose, and will set the internal variable 'warn' depending on what is typed in at the keyboard.

The 'all' switch in the copy command will ensure that a directory is made in RAM to put all the files into. The 'quiet' switch will stop the filenames appearing on-screen.

SEEDY ROMS



I have an Amiga 500 with 3Mb of RAM and a GVP A500HD+ series II hard drive. I am interested in fitting a CD-ROM drive – can this be hooked up via the SCSI connector on the back of the hard drive?
Francis Laus, Malta.

Yes, you can do it – all you need is the correct cable to connect the GVP drive to the CD-ROM mechanism and probably a power supply for the drive as well. As far as software goes, you will need to get hold of a CD-ROM handler so that the operating system can communicate with it. Several software drivers are in the public domain (such as AmiCDROM) so ask your favourite PD library.

Alternatively, you should consider getting a CDTV. At the moment the prices are extremely low, far cheaper than a stand-alone CD-ROM drive. You can link the CDTV to your A500 via Parnet and save a bundle, as well as being able to use the CDTV specific titles which are available.

NO PASSWORD



I have lost the password sheet to the *Sculpt Animate 4D Junior* coverdisk which was given away with issue 32 of CU AMIGA. Is there any way that you can supply them? If not, can you please print my address so that someone else can help?

By the way, I used to be able to use the software without the password when I used the ReOrg disk optimiser, but now when I try to use it having not done so for over a month, it keeps asking for a password.
M.J.Barkhordar, Woodloes Park, Warwick.

I'm afraid the whole point of a password is so that unauthorised users can't use the software. The main programs on CU's coverdisk are not public domain and therefore it would be wrong to make copies of them for other people for example.

You may be able to get a copy of the mag from our back orders dept, or from a friend perhaps? If that brings no joy, send the original disk back to us (registered) and we'll return the code sheet. ReOrg was never password protected, so perhaps it needs to be loaded via Workbench. There is no possible way for a password to spontaneously 'appear' on a program that didn't have one before.

BUSY EXPANSION SLOT



I upgraded several months ago from an aging 1.2 A500 to a nice new A1200 complete with 80Mb hard disk. Everything has been fine until recently when I bought a Power Scanner and *Wordworth 2.* Ever since I have been pestered by the very annoying, 'not enough memory' syndrome. Therefore, I decided to save for a GVP 1230 accelerator with 4Mb of memory.

The advent of the new CD32 has concerned me. Commodore say they are to release a CD ROM drive for the A1200 which will connect to the trap door expansion slot. I, for one, will certainly be buying one of these, but what will happen to the GVP 1230 that already lives there?

Will there be an expansion slot on the CD drive, or will there be some sort of through port on the drive's interface which enables the two to be connected simultaneously?

I'm not sure what to do. Should I buy the accelerator, then buy the CD32 console separately as a stand alone unit, or will the CD ROM drive definitely be compatible with all current and future A1200 trap door expansions?
Karl Perkins, Highlight Park, South Glamorgan.

Some excellent questions there, unfortunately ones which we cannot give a definitive answer to yet. The problem arises because Commodore wants their Christmas sales campaign to consist of only two basic items: the CD32 and the A1200. They don't want a situation where potential purchasers are overwhelmed by the choices available to them. For this reason they're deliberately underplaying both the CD32 keyboard and the A1200's CD ROM add-on, and firm details are still virtually impossible to come by, despite the fact that the units will still apparently be available before Christmas.

There are a number of problems which arise from your questions. If Commodore opt for a CD ROM which connects to the trap door slot and has a through port on it, a number of boards including the GVP, CSA and MBX units will not be able to connect because they are so very large. Lew Eggebrecht, Commodore's chief of engineering has already indicated that this will be the case. Even if the connector was only half a centimetre wide, it would still be too big.

On the other hand, any CD ROM drive already needs to have room on it for the Full Motion Video card, so making space for A1200 trap door peripherals will mean that the unit is quite large and complicated, and that in turn is likely to push up the price.

Incidentally, the CSA 12- logoGauge is much faster and more flexible than the GVP accelerator.

MIDI GUITAR



I'm writing to you to seek advice on Amiga MIDI interfaces and software packages. I am a sixth year student at Eastwood Comprehensive School and one of my chosen subjects is computing. For this subject, I have to do a major project based on my interest.

As my interest is playing the guitar, I had the idea to write a guitar tutorial program. To do so I would need to link the computer directly to the guitar via a MIDI interface allowing the computer to recognise what the student is playing and therefore will tell him where problem notes are occurring and how they can be corrected.

I own an Amiga 500 with 1Mb of RAM. I have no MIDI interface as yet, and as I have to write the program myself I am a little lost as to which programming package would be best suited to my needs. I am quite familiar with Basic programming on PC computers and I have some experience with Pascal too.

I would appreciate any pointers or advice that you can give me to help me pursue my idea.
Shaun Pounder, Newthorpe, Nottingham.

The most important thing that I should point out first of all, is that you can only use MIDI if your instrument supports it. Most guitars do not. If you were a real electronics and acoustical whizzkid, you could conceivably build one, but it wouldn't be practical given the time pressures that you are under.

Assuming your guitar is MIDI compatible, and you've already bought a MIDI interface and connected the two (you can buy an interface from Datel), then the language you choose depends partly upon the level of accuracy you require.

For example, you could perhaps use compiled *Basic* to read the MIDI port, but it would be unlikely to have a very high resolution. In other words, although it might be able to detect what notes were being played if you played them relatively slowly, it would not be able to cope with faster performances.

I don't know how fast Pascal runs, but I would have thought that C or 68000 assembly language (machine code) would have been the ideal choices.

WHERE'S THE EXPLODE LIBRARY?



I was very glad to see that you put *InterWord* on your coverdisk, but whenever I try to load the disks I keep getting the message, 'Needs Explode.Library 4' or something like that. I looked at the disk and the explode library is already there so please can you tell me why I keep getting this message?
Richard Jordan, London.

We constantly get calls and letters from people with exactly the same problem with various cover disks and the solution is always the same.

If the explode library is on the disk, there are only two reasons why it isn't being detected:

1. The library is in the wrong place – it should be in the libs drawer of the disk. We check the disks first so this is unlikely to be a problem.

2. The library isn't on the boot disk. This means that you've booted your computer with a disk other than our coverdisk. When the computer looks for the explode library it searches the libs drawer of the boot disk, not the disk that the program requiring it is on. The solution to this is easy: reboot your computer using our coverdisk!

Oh well, as the sun sets on another episode of Q&A, Mat and John's silhouettes ride off into the sunset, ready to save another bunch of frustrated Amigites next month.
Till then, send your questions to Mat & John, CU Amiga, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.

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SOUND LAB

Meanwhile, back at the lab, Professor Von-Horgan was about to perfect his ultimate trance-inducing sonic masterpiece...

Do you ever feel you're getting into a rut just using the same beats and rhythms over and over again? It's easily done. You work out a little sequence, then, to see how it sounds with a beat, you pick out your favourite break, or just tap in that simple drum pattern. The trouble is, those temporary bits have a habit of becoming permanent fixtures and before you know it, you've got a dozen songs all with the same backing beat. Take the time to put some thought into your beats and you'll find it's worth the effort.

TRANCE-U-LIKE

In case you hadn't noticed, trance music is flavour of the month at the moment and not without good reason. Trance can be anything from completely beatless ambient washes, to hyped-up dancefloor pounders, or anything in between. It's the the pounders and the in between bits we want to look at.

One of the best things about trance is that you can use any sounds you like – there are no rules. When you're working out your rhythms, there's no reason why you should think solely in terms of the standard drum kit of kick, snare and high hats. In fact, you don't even need to use drum sounds at all, you can build your rhythms from bleeps, animal noises, ethnic percussion, vocal snippets, sci-fi sound effects or whatever you like.

For authentic trance, try using ethnic drum samples. If you have enough spare tracks, you can get some excellent beats going by simply throwing samples in almost at random. This technique works well with tom type sounds, and if you're careful to keep them in the same key, you can make basslines and little melodies with them too.

Instead of always working with four or eight beat loops, have a go at combining loops of odd numbers of beats with a straight four-beat backing.

If you're feeling exceptionally confident about your rhythm track, you could even consider cutting out everything else entirely. There's something captivating about a track that's been stripped down to just the beat.

Quoth (by Polygon Window A.K.A. The Aphex Twin) is a good example. It doesn't have a melody, a bassline, chords or vocals, but it does have a driving beat made from weird clangs and deep synthesised pulses, and it's actually pretty good, especially as a DJ's mixing toy.

LOOP DA LOOP

When you're using drum loops, there are a number of tricks you can try out to make them sound a bit different. If you have enough RAM to spare, then you can put all kinds of effects over your breaks, and use a number of differently processed versions in the same track. However, if memory is in short supply, then you'll have to use more devious methods. For example, it's possible to flange and phase sounds in realtime with your tracker or sequencer. Put down a track with a one-bar breakbeat cued four times in the block, and adjust the tempo and tuning so that the block plays smoothly. Put a loop on the breakbeat sample and on another track, cue the break just once at the start of the block. Because the loop on your sample will inevitably be very slightly out of time with the tempo of the block, the two copies of the same sample will run a bit out of time too. This has a phasing effect on the final sound. For this to work, both samples must be played from the same speaker, so make sure they're both routed through either the left or right output.

To add a jerky, clonkier edge to your breakbeats, set one breakbeat going on a standard loop, then cue another over the top at different points in the bar. And, finally, by triggering the second beat at various points, you can create almost endless variations of the original. CU



SAMPLE CD

TECHNOTRANCE

If it's squelchy analogue sounds you want, then this is the place to find them. Technotrance is devoted almost entirely to instrument samples of a techno persuasion. There are 1,200 samples to choose from. Rather than give you a constant string of zaps and beeps, the sounds are included first in the form of little riffs and then as single shot samples. This has the advantage of giving you some idea of what they might sound like once you've got them in your sampler. Although it seems to work at first, after a while it can become rather annoying, hearing the same riff time after time when you're seeking out new samples.

That aside, Technotrance is a very handy CD. There are hundreds of stabs and staccato string sounds, long looped chords and pads and a healthy portion of analogue synths. The analogue stuff comes in a variety of flavours, covering 303 tones, Moog basses, and heaps of strange zappy effects. To help you get a realistic analogue feel, some of the sounds are included with different filter settings. Then there are the hands-in-the-air breakdown atmospheres, just perfect for when everyone needs a bit of a breather, but won't stop unless the beat does.

A bit of welcome variety comes in the House and Garage section. It's only brief, but includes some very useful sounds, like the sax, organs and the excellent multi-sampled plinky piano. Ethnic percussion is on hand for those head-nodding beats, along with a good selection of dirty drum sounds. I'd like to have heard more from the 303, which is still very much in vogue, but then I think I've just got a bit of a 303-fixation at the moment, so I'll let that pass.

Overall, Technotrance is a very useful disc to have at your disposal. Whenever you want a synthy type instrument, you can flick through this and you're bound to find one that fits.

Available from: Time and Space, PO Box 306, Berkhamsted, Herts, HP4 3AP.
Tel: 0442 870681. Price: £39.99.

80%

WIRED WORLD

As you would expect, just about everything is configurable. Thankfully, the default settings are sensible and probably won't need changing, so beginners can get stuck right in.

John Armitage looks at some new Comms software and a new board to try it out on.

By nature, Comms is always changing. Something new is always popping up. Two new items gained more than a few nanoseconds of my attention span this month, and both are destined to make my on-line life (and possibly yours) a lot more fun.

TERM V3.3

The first item on the agenda was *Term V3.3* – a new Comms program which was passed onto me by a friend. It's okay, there was no dodgy dealings, this program, like most other Comms software, is meant to be passed around: it's Giftware, If you like – you send the programmer a present.

I had been using *NComm V2* as my main Comms software and liked its ease of use, *ARexx* compatibility and the fact that it did more or less all I could want. However, with my recent upgrade to the joys of an AGA-based machine, the screen support was a bit lacking, but the PD hack *Double-X* soon got rid of any flicker.

Now, my new prize was *Term V3.3* – a terminal program which was specially written to take advantage of Workbench 2 and up. And it certainly does utilise Workbench in a very effective way: it uses the new menu, file requestor styles and supports new screen modes (multiscan productivity mode is both huge and easy on the eye – if your monitor can support it).

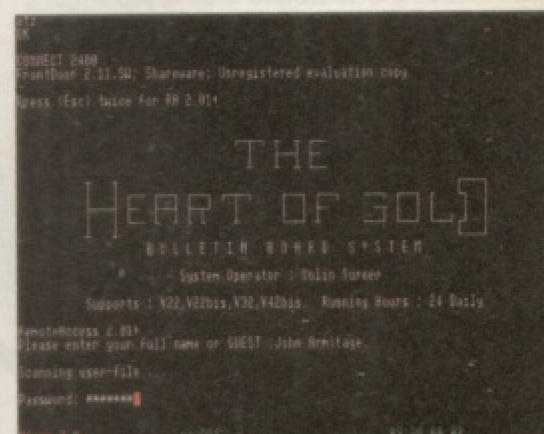
Term v3.3 is possibly one of the best terminal emulation programs you'll ever use, providing you have a Kickstart 2 machine of course!

What kept me from using *Term* in the past was the lack of English documentation. I'm not xenophobic, but as the author is German, the docs were also in German and therefore useless to me. But the language is no longer a problem because *Term v3.3* now comes with full English docs and a cross-referenced AmigaGuide document covering both general use and *ARexx* features, which means there is no reason at all not to use this program. Help is available at any time, which makes *Term* one of the friendliest Comms programs around. *Term* has all the features you would expect in a Comms program and a few extras besides.

Aimed at A1200 and A4000 owners, *Term* is also available in a version for 68020 and other processors which speed things up a bit. Ask your favourite PD library for a copy or get it from your favourite on-line service.

BOARD FACTS

NAME: Heart of Gold
NUMBER: (0247) 274919
FIDONET: address: 2:443/13.
HOURS: 24 hours
SPEEDS: 300->14,400 (HST soon)
SYSOP: Colin Turner
CO-SYSOPS: Chris Archer and Scott Myles
OTHER LOCAL BOARDS: Starship Enterprise



Welcome to the BBS Heart of Gold. You have logged-on at a probability of 12000:1 and falling.

HEART OF GOLD

No, Esther Ranson is not starting to infiltrate the Amiga market with her little gold hearts for good deeds. Heart of Gold is a new Bulletin Board Service (BBS) – my second discovery which I could test my new terminal software out on.

The Heart of Gold BBS is a (vaguely) Hitch-hikers-influenced board set in the midst of, sunny seaside resort, Bangor, Co. Down.

Heart of Gold is run by Colin Turner and it has a plethora of PD software available for a wide range of machines and soon, there will be some CD-ROMs available as well.

Heart of Gold also has specialist mail areas for astronomy, education and Archimedes users and, by the time you read this, the Amiga section will hopefully be full of software. At the very least, log on and leave a message. You should find a copy of *Term* around if you look.

Also, because it is a part of the Fidonet system, any mail posted onto Heart of Gold will be bounced around the globe which means that if you happen to live in Co. Down, you can email users in America for the price of a local call. Pretty clever, eh?

Ask the sysop of your local board about Fido if you haven't heard about it before. Sysop Colin hopes to implement an Internet gateway as well, which means the world will soon be your ostrich. *[What happened to the oyster? – Ed.]*

BACKCHAT

When it comes to getting your views across, there's no better place to come than CU's forum. This month, Tony Dillon drags himself to the letterbox and practises his reading skills.

SLOW DOWN!

What are Commodore playing at? We all know that the A600 was the biggest cock-up ever and we saw from the letters pages of magazines how many people were outraged by the release of the A1200. I've just bought one, assured by the Big C that it was the machine of the near future, and thought I was making the right decision. Now all I hear is rumours of the A1400 and the AAA chipset, which will no doubt leave my A1200 as useless and unsupported as the A500 Plus. Could you please dispel the rumours and let me know where I stand so that I can start investing in my set-up?
Sara Bennett, Sutton.

Rest easy, Sara. The AAA, which is up and running now, is no more a threat to your Amiga than a new Apple Macintosh. The AAA is planned for use in higher end, Windows NT compatible machines and is at least a year away. Your A1200 is alive and well!

THE FAR SIDE By GARY LARSON



SHOME MISTAKE?

I just up-picked a copy of your magazine from the newsagents, and I am most interested in the various software packages which are available for the Amiga. I have an IBM compatible PC, and, I guess, before I can use the software, I need to install Workbench? What is the protocol for me to install that and where do I obtain such packages from Belgium and do you have a Belgian distributor? Please advise, many thank and regards.
John Bolton, Belgium.

I'm sorry to tell you this, John, but you have up-picked the wrong magazine for your machine. You will need to do a hellava lot more than install Workbench to play the interesting software packages. You will need to up-pick an Amiga!

PRINTING PROBLEMS

I recently purchased a copy of the October issue of CU AMIGA, (I am a regular reader; the contents of CU AMIGA are the best of any other magazine by far and you have wicked cover disks!!!) mainly for the *Flexidump v2.5* package. I have a Hewlett Packard 500c Deskjet printer and I want to get the best output from it, so I felt the *Flexidump* package would help as it had its own custom drivers and it claimed "to enhance printing on 90% of printers". How was I to know – as it was not indicated in the magazine – that I could not use it? It said in the article that, 'Flexi ignores the settings in Amiga Preferences and uses its own to achieve superior output'. It's a shame that there is no such custom driver for any of the HP Deskjet range, plus I can't use the Preferences HP500c driver.

Please can you help to get me out of this bind, I want to use this excellent package but it seems as if Care Electronics didn't care enough to include a HP Deskjet driver (or neglected to!)
Taraq Ali, Coventry.

You are completely correct in sussing that there isn't a definitive HP Deskjet driver. There is, though, a generic bubblejet driver that will work fine with the HP Deskjet series. Perhaps you haven't been looking through the list of drivers correctly?

Whatever the case, if you find that this doesn't fulfil everything you would want your driver to do, you'll find a program in the custom folder that allows you to alter any of the printer drivers to suit your set up.

LETTER OF THE MONTH

THE GREAT PC DEBATE

I am sending you a quote from a PC magazine. I hope that you can work it out: 'Game developers have leapt onto the PC bandwagon so fast you could be forgiven for thinking the entire Amiga games market disappeared down a worm-hole some time yester-morning. The sad fact is that at first glance many developers of non-games software seem to have followed the Amiga games market straight into the worm-hole, having completely lost sight of where their future lies.'

What worm-hole is that then? Oh, sorry is that the worm hole where the new *DPaint AGA* is? Or maybe the *Video Toaster 4000*? Oh, of course! I see it all now! That's probably where *AMOS AGA* is and where *BlitzBasic AGA* is as well! Well cut off my nose and feed it to Dan Slingsby, I better go out and buy a PC right now before the Amiga disappears completely, hadn't I?

PC owners are supposed to be more mature aren't they? Well, judging by that article, they seem to be completely the opposite. All the writer is trying to do is start up the debate again.

It seems that PC owners just want a quick argument. I'd like to see them bring out a standalone 32-bit CD for less than £300.

I do not wish to start the debate again [*You could have fooled me. – Ed.*] but PCs home computers are not the cheapest nor the best. The Amiga is all I've ever wanted, so why can't we just get along?
Christopher Ayers, Suffolk.

Too right. For too long people have slugged it out between the Amiga and the Atari ST/STE. Now that the ST is finally being laid to rest, all we need is another 'my machine is better than yours because...' argument. Yes, the PC is capable of being a lot better in a lot of areas, but these areas do cost, and pound for pound the Amiga makes a lot of sense. However, *X-Wing* and *Wing Commander* are better on the PC than they would be on the Amiga, and likewise the PC will never be able to do games like *Sensible Soccer* or *Body Blows* as well as the old Commodore workhorse. Grow up, accept the strengths of your machine, and stop trying to turn everything into a competition. That's about all we can say to that.

FREE PLUG!

In your October issue you requested any dealer recommendations that we may have. I think that 'New Horizon Computers' service is terrific and feel that they deserve some credit for it.

I wanted to buy a hard drive kit for my A1200, and so I rang several companies that are advertised in your magazine: all of which claimed to supply 40Mb kits. New Horizon, however, was the only company that I contacted which actually had the drives in stock and so I ordered one at 5.25pm on Wednesday.

On Friday, at 10am, my hard drive arrived by registered post (which was included in the price). Following the very clear accompanying instructions, I was able to install the drive in about 10 minutes. The drive was already partitioned and part loaded with Workbench 3.0 so the machine booted up first time. An install program was supplied which loaded the full Workbench (the best piece of installation software I have ever used!). Also supplied was some software to re-partition the drive or do a low level format should I need to.

I have no reservations about recommending New Horizon Computers and I will be using them again for any further upgrades I may require.

Steve Edwards, Southend On Sea.

A satisfied customer! 'Better have him stuffed,' as Basil Fawlty once said. I'm glad everything worked out fine for you, but what do other readers reckon? Can your local dealer beat that for service? Let's hear what they've done for you!

THE FAME GAME

First, let me say I do not begrudge you putting my demo on your coverdisk at all. But it would have been nice to have been warned first that you were going to do this. Why? You may ask. Well, upon publication of your magazine, I proceeded to receive a steady stream of letters asking for source code. Here are a few quantities for you:

Day	Number Of Letters
1	217
2	115
3	137
4	78
5	62
6	81
7	54
Total:	744

After having a mild heart attack over the amount of letters I started to copy the code and read the letters, most of which didn't have return postage. So, being the honest (but unemployed) person that I am, I copied the source code for every person who sent me the required amount of disks. Unfortunately, to cover the costs of postage and packing I had to DMS three disks onto one and sell the other disks.

I must add that I did not make any personal profit out of this as I sold the disks at 20p each (that's 40p per person) to cover the following:

Photocopy of a standard letter:	10p
Envelope + label:	7p
Stamp:	24p
Total:	41p

So, could you not publish things without contacting the author first to warn him of your intentions. I had no fun copying so many disks on a single drive machine and I don't look forward to doing many more.

Stephen Smith (Cylon/Dimension X).

Well, what did you expect? That's the price of fame, Stephen. Perhaps we should have let you know beforehand but, hey, we all like getting a bit of surprise in the post, don't we? No, seriously, we're sorry for the inconvenience. We've since commissioned Stephen to produce an exclusive demo for us – watch out for it soon!

RIP ROARING FLOP

Is Commodore against music? Here we are in 1993 with the A1200, but where is the DIP and the SCSI ports? In 1987, the A500 had a STS interface, and now six years on, the A1200 doesn't have a SCSI interface at all. A SCSI interface is coming for the A1200 but as an add-on, but why not as standard? Cost maybe?

Something else. The PC is not slow. The PC is fast. What about the 486, or even 386? Just take a Mega PC, for example. On PC mode, the speed is 92 MHz! When has an Amiga come near? Buy an accelerator, fit it and your lucky if your A1200 only runs at 40 MHz or more!

James Bland, County Leitrim, Ireland.

Hmm, something tells me you haven't been examining your PC adverts very closely. We have taken a look at the Amstrad Mega PC, and can confidently announce that there is no way that it is running at 92MHz. A top-level 486 DX2 with an FPU can only run at a top speed of 66MHz, so unless your Mega PC is fitted with a couple of Pentium chips, you're more likely to find yourself plodding along at a leisurely 16MHz.

NOT HAPPY

Isn't it amazing how widely opinions of programs and demos can differ? Surely the demo should be adequate bait to tempt Amigites to buy the full program. Having tried the *F117A* demos, I must ask myself whether MicroProse really expect punters to 'dash out & buy' on the premise of a demo with no sound, no flight/navigation details, dismally inadequate instructions, unreadable panels, sluggish controls and messages that self destruct in about 0.2 seconds? It lands safely anywhere regardless and never crashes – some simulator!

Even *Fighter Pilot* on the lowly 48K Spectrum taught one about navigation, crosswind, glide paths etc. and explained the reason why you crashed. Whilst the scenery was less colourful and less detailed than the *F-117A* demo, the overall basic standard was quite similar.

Given the 10-year gap and the vastly superior capabilities of the Amiga, very few if any advances seems to be evident. One can only regard *F117A* as unexpectedly lacking and cannot share the enthuses of various reviewers.

George W Payne, Watford.

Well, George, it seems as though you might have missed the point. The *F117A* demos that are circulating on magazine coverdisks at the moment are running on the easiest level of the game, in order to make it as accessible as possible. Naturally, you can make the real game as tough and realistic as you want. Believe me, flight simulations have come along a long way since *Fighter Pilot*.

THE FAR SIDE By GARY LARSON



Late at night, and without permission, Reuben would often enter the nursery and conduct experiments in static electricity.

CD DIRTY DOO?

I have a few thoughts about CD and the future after reading the last couple of issues of CU Amiga. I own an Amiga 1200 and I also own a Philips CD-i player, therefore I feel I can offer an objective viewpoint.

Firstly, the CD32 looks cheap and ugly. Commodore have made it look like a flimsy toy instead of a machine that can sit by the side of a video and not look out of place. Who would want one in their living room? It's an eye sore!

Secondly, last month's issue incorrectly stated that CD-i had its own proprietary replay format. This is not true as CD-i's Digital Video incorporates the MPEG 1 standard.

Thirdly, I believe that it doesn't matter whether the CD32 is 32-bit or otherwise. The CD-i is a standard 16-bit 68000 processor, yet if you have seen Virgin's *7th Guest* running on CD-i it leaves the PC CD-ROM version standing. Everything about the CD-i version is totally superior. The PC CD-ROM cannot match CD-i and the Mega CD is a joke.

Also, on the ITV lunchtime news, CD-i was shown running the film Top Gun. The quality was as good as anything we've seen on TV. How can this be beaten? If a 16-bit 68000 processor can do it, what is the advantage of a 32-bit processor? None, that I can see. Don't get me wrong, this letter may sound like I prefer my CD-i, but I love the Amiga and its capabilities and I would like to see CD32 succeed but I feel that there is one thing that will stop its success and that is compatibility. CD32 will be able to play CD32 disks and that's it.

CD-i is fast becoming the CD standard. Already, besides Philips, the inventors of CD-i, Goldstar have manufactured their own CD-i player and so too have Sony. All this means that no particular manufacturer will dominate the market but most CD users will be using the CD-i technology and discs will be interchangeable between the different makes in the same way as a video tape can be played in any particular manufacturer's machine.

Commodore should have made a machine compatible with CD-i in order to succeed. As it is, I think they will be stuck in a small specialist market as the Amiga is now with the PC being the main format.

S. Bate, Preston, Lancs.

You know, I somehow feel that you've missed the point. For a start, the CD32 looks like a toy because it's a games console. The CD-i looks like a brick, because it's sold to people who want bricks.

To answer some of your points: the CD32 *is* compatible with MPEG 1, the CD-i has only sold about 30,000 units in the UK, whereas the CD32 has already topped that, and as for CD players that can play movies, remember *Dragon's Lair*? Laservision? CDV? The CD32 has one last major advantage over CD-i. People actually know what it is.

»

KIXX UP THE JACKSEY

My friend and myself have had a bit (to say the least) of bother with KIXX. We recently bought a game and it had an offer inside the box. It said that if we could send the barcode from the box of the game purchased, and a small amount of money (£2.99), we would be sent the game that we ticked overleaf on the offer form.

It has now been seven weeks since the free game form was sent in, and both of us are quite peeved to say the least. You will probably say that it takes time for things like this to be organised and for us to wait a little longer. NO. We feel that we have spent enough time waiting for the game to come through the post. I would be most grateful if you could either send me the address of KIXX and I would write to them, or would you kindly ask them what is going on.

I have been on a training scheme since August 1992 and since them, I have gained my RSA level's 1 and 2 in word processing on Wordstar 6.0. I recently started a year long course doing my 4351 in AutoCAD and the only time I can get anything done is when I am at my scheme. I would be grateful if you could tell me if there are any CAD packages around for the Amiga like AutoCAD Release II on the PC.

David Williams, Co.Durham.

We tried to contact KIXX, but unfortunately no-one there was able to give us any information concerning your game. If you want to write to them, you'll find them at KIXX, Units 2/3, Holford Way, Birmingham B6 7AX. As far as decent CAD packages go, there are literally hundreds. Your best bet is to check the PD libraries, as there are dozens of superb packages to be found there. If you're after a commercially released program, the one most people opt for is *X-Cad*. Give Silica Systems a ring for more info (081 309 1111).

BLITZED OUT

I recently purchased a copy of *Amiga Format* (something I don't admit to readily) for their 'too good to be true' coverdisk giveaway – *BlitzBasic 2*. Too good to be true, all right. Being a big fan of packages such as AMOS, I couldn't wait to get it up and running, with thoughts of games like *Woody's World* and *Skidmarks* rushing through my brain. It was in, it was up, and I'd been done.

Either that, or the 'tutorial' in their issue has a lot of problems. Not only could I not get a single listing of theirs to work, thanks to the lack of instruction I didn't know how to fix it. I have written to them, but with no reply, so I implore you CU, please run a tutorial. Fifty pounds seems like a hell of a lot to pay for a book, and I would really like to learn to use this package. I'll tell you what, I'll do you a deal. If you print a tutorial, I'll write the best game ever and you can stick it on your coverdisk.

Dennis Hall, Somerset.

As you may have noticed, Den, from this month we are printing a *BlitzBasic* tutorial, so you'll soon be creating top software, regardless of where you got the package. As to the completeness of AF's disk, well, they said it's complete, so it must be!

YOU'RE WRONG

I would like to point out a couple of inaccuracies in your *Diggers* review for the CD32. It was FAR too much down rated. I guess you were looking for flashy animations, whizzing graphics, flashing colours and fast-paced action. Well *Diggers* is not like that. Instead it is filled with loads of playability and brain-taxing things with a bit of originality, which keeps you coming back for more. When my friends saw it they said it wasn't very good, however when they got round to playing it they couldn't get away! Some decent magazines rated it fairly, i.e. above 90%. I thought it was the payability that mattered, not the sound or graphics, but you and another mag seems to forget that and don't mention a thing about gameplay.

I'm sure many people will agree, I know a review is someone else's opinion, but some reviewers just don't seem to care about playability any more. It's stupid that *Diggers* only got just over 60%, mainly because green and brown rocks and dirt don't appeal to the reviewer!

Steven Browne, Camberley.

No, *Diggers* didn't get an average review because it didn't look spectacular. It got an average review because in the reviewer's opinion, it was an average game, and one that did not take advantage of the CD32 capabilities. If it's anything to do with value, then *Diggers* scores 100%, mainly because it's free!

COVER CRAZY

My god! What an incredible cover on last month's CU! While other magazines are making do with large block lettering, CU have really pushed the boat out. At first I thought it was a painting, but when I realised it was a rendered image, I wanted to rush out and buy *Real 3D*.

Please, tell me, who is responsiblefor this wonderful cover and how did they do it and how can I learn to do it!

B. Lines, Tyneside.

Sorry, but we forgot to mention last month that the artist responsible for that rather tasty piece of sci-fi artwork was none other than the Render King, Tobias Richter. Quite how he does it is anyone's guess, but it starts with a rendering package, a large pile of powerful Amigas and a lot of late nights.

If you want to get going yourself, then check out the back issues of CU and get your hands on *Sculpt 4D Jnr*!

CLUB CALL

Each month, CU AMIGA gives you the low down on the hottest clubs in your area...



You may have heard about ICPUG, but you might not know what it is. For those who aren't in the know, it's the Independent Commodore Products Users Group. Formed in 1978, ICPUG has supported owners of all Commodore machines, including PCs, and is currently the largest independent Commodore user group in the country.

A non-profit making organisation, it is run entirely by volunteers and costs a mere £22 a year to join.

What do you get for your money, you might be asking? Well, for a start, you get a copy of the *ICPUG Journal*, which covers most hardware and software through informative and accurate reviews written by coders and developers. The magazine doesn't really focus on games, leaving that kind of thing to us at CU AMIGA. Instead, you'll find in-depth features on printers, modems, fax cards and just about anything you'll ever want to connect to your Amiga.

You also get free access to the ICPUG PD library, which contains over 1,500 disks for the Amiga alone! You'll find everything you could ever want from Public Domain here, and you don't even have to waste the price of a stamp. All you need to supply is a blank, formatted disk and the choice is yours.

There are also a team of seven technical advisors on hand to help you over the phone every evening, to help you with any problems you may be having with hardware, and more discounts than you could shake a rather large chest of drawers at!

But there's so much more. ICPUG work quite closely with Commodore, and we were given sneak previews of the CD32 and A1200 some months before the machines were unveiled to the public. Groups meet regularly, to swap information and ideas, as well as showing off their latest acquisitions and experiments.

For more information on what ICPUG has to offer, plus details on how to join, get in touch with your local group. Check out the table below for contact names and telephone numbers.

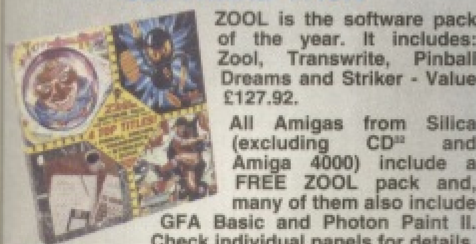
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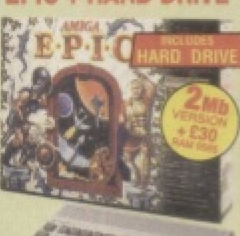
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Which computer(s), if any, do you own? 104R

Buying a computer is never easy, especially if you're a computing novice. But help is at hand as Jeff Walker shows you how it's done... sort of.

I'LL HAVE ONE OF THEM PLEASE

Picture the scene. You've treated yourself to a 'home' computer. For years you resisted the temptation, but armed with some redundancy money and plenty of time on your hands you figure that learning how to use a computer is going to keep your brain active until you find gainful employment. So, you strolled down the high street and the nice man in the shop showed you some computers that cost about £1,000. They were called multimedia machines, although the man said they were really just PCs with a fancy name.

A PC is a business machine. For the office, isn't it? And £1,000 is a bit stiff, it'll put a large hole in the old redundancy money. So you enquire about the cheaper one on the opposite wall. It's called an Amiga and you know that's a home computer because the kids play games on it at home. Only this box has a word processor in it. And a graphics package. And a printing package. And a disk driver and 2Mb of memory. And a Workmate operation system. Or something like that.

The point is it costed less than half of what the multimedia machine did and it had all this software stuff with it for free. And you can plug it in the telly. Sounded right up your street. Out came the credit card and the deal was done....

UP AND RUNNING?

It's four hours later and you've at last found some desk space and put it all together. You've read the first chapter of the manual. You have discovered that it's called Workbench and it's an operating system. You feel brainier already. On with the switch. In with the Workbench disk and....

It's four hours later and you've discovered that most software comes on three, four, or five disks and you've only got the one hole to stick them in. No matter what way you do it, you simply can't work out which order you should insert the disks in to get the word processor thing working. The program's on this disk, something called the fonts is on that disk, the spelling checker and thesathingy is on another disk, and there's a load of other stuff on yet another disk. And you've only got one hole to put them in and when you do it keeps asking your for the Workmate disk. Or something like that....

It's four hours later and you've got the word processor sort of running except it looks really weird and there's a little box on the telly that says not enough memory. But the nice man in the shop said it had 2Mb and that 2Mb was more memory than anyone would ever want. 'My first computer only had 16k,' he'd said with a nostalgic glaze over his eyes. You smiled wryly and given him a wink that you hoped gave the impression that you had had one of them too.

Oh flip. Hang on. What's this? Now there's a box on the telly that says software failure. Ah, that explains it. You resolve to take the failed software back to the nice man in the morning. While you're there you'll ask him what the hell 16k is. Meanwhile, you try the graphics package... Oh gawd. That comes on four disks too and you've still only got the one hole to put them in....

No better value Amiga pack has ever been released for the Amiga.



DOWN AND OUT

The next day, failed software in hand, you go back to see the nice man in the shop in the High Street. He explains that in order to use your home computer with word processors and graphics packages you need more Mb of memory. When he said yesterday that two was plenty, he meant for games. Oh yes, and you'll need at least one more disk driver as well, or even better something called a hard disk. Under your breath you mumble that you'd rather have an easy disk.

You mention that the picture on your telly isn't very good and ask if it needs repairing. The nice main explains that in order to use your home computer with word processors and graphics packages you needed a monitor.

How much would that little lot cost, you ask. About five or six hundred quid, he says. You agree that you do need a monitor – one for your heart. Then you realise that if you add the price of the computer to the price of all the other stuff the main said you needed, it worked out the same as one of them multimedia machines he showed you yesterday.

You get to wondering. You know the company that makes this Amiga? Commodore. Why would they put a word processor and graphics package in the box that are almost impossible to use with one disk driver, when one disk driver is all they give you? And if 2Mb isn't really enough memory to run these programs properly, how comes they only give you 2Mb? And if the picture is so bad on a telly that you can't see the words to process them, how comes they tell you to plug it in the telly?

Is it because if they gave you more Mb and a monitor and more disk drivers or a hard one the bloody thing would cost as much as the multimedia machine the nice man showed you before you decided you couldn't afford it? Hmmm. Makes you wonder. The Desktop Dynamite bundle does represent incredible value for money, but to exploit the programs to their fullest potential you're going to need more than a basic Amiga. CU

POINTS OF VIEW

The Points of View column is open to anyone who wants to have a good ol' moan about anything computer related. As such, it is editorially independent from the rest of the mag and the views expressed here do not necessarily reflect those of the editorial team and certainly not Dan, who washes his hands of the whole thing. In fact, we all think the Desktop Dynamite package is really rather smart and definitely tops for value! So there!



Who is this hideously mishapen and deformed individual? He thought we didn't have a photo of him, but here he is in all his, ahem, glory – Jeff Walker (Allegedly).

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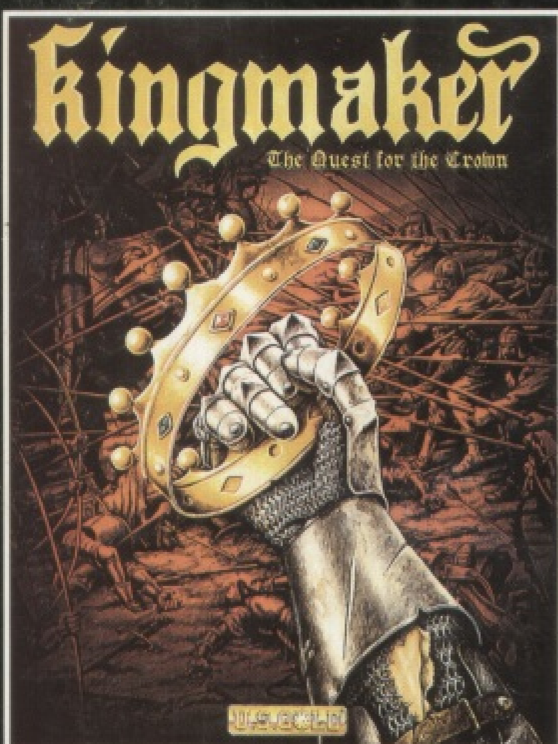


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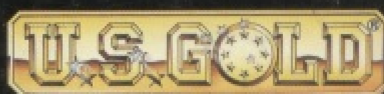


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